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UNIVERSITY OF MASSACHUSETTS BULLETIN

1968-1969
Annual Report of the President

Amherst · Boston · Worcester

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To The Board of Trustees:

It is a privilege and pleasure to submit to you my ninth annual report as President of the University of Massachusetts, covering the 1968–1969 year. The world has moved in many ways during that year, and we who make up the greater University community have moved with it.

While our rate of motion often has been increased by circumstance, we have nevertheless retained control over our specific directions and our definition of the goals ahead. The past year has seen those goals clarified and expanded, and new pathways opened, always with a view toward greater service to the citizens of the Commonwealth.

We know our total University system has become larger and more expensive. We believe that at the same time it has become immeasurably more useful to the individuals it serves.

We hope for the continued and intensified support of the Governor, each member of the General Court, and every taxpayer. For it is clearly by the level of this support that Massachusetts testifies to the self-knowledge that ours has become an excellent state university, and to the conviction that its future is to be truly great.

John W. Lederle

John W. Lederle
President

December 31, 1969

A Year of Growth

It was a year of growth, and a year of restriction. It was a year of analysis, and a year of decision. It was a year of confrontation, and of communication. For the University of Massachusetts, 1968–1969 was a year for people and for progress.

The growth was quantitative and qualitative, with students in record numbers and mushrooming physical plants, new degree programs and new approaches to knowledge. The restriction was predominantly financial, and made itself felt in many ways.

The analysis was University-wide, ranging from the initiation of a massive study of the entire University system of self-assessment of methods and curricula at the department level by both faculty and students. The decisions were many and gratifying, ranging from those involving the University's future in Boston and Worcester to those concerning small groups of students.

The confrontations, though not always welcomed, were not violent or even massive. Willingness on both sides to discuss substantive issues gave them a positive rather than negative effect. On the whole, the extent and value of communication between all segments of the University increased, as did the University's outreach in serving people beyond its campuses.

Causes for Pride . . . And Concern

Over the past decade, the University's enrollment has quadrupled, capital outlay has nearly matched the pace, but many of our operative levels of support have remained almost static. New programs, for the most part, have ceased to be initiated. Existing projections for 1980 increase our concern. By that time the need for public higher education in the Commonwealth will exceed available places by almost 100,000.

The past year was the third in succession of a truly restrictive operating budget, nevertheless coupled to nearly adequate capital appropriations. Support for the operation of our growing public higher education system must increase sharply if future provision for new thousands of students is to match the educational achievements of Massachusetts' past. While the need is growing rapidly, the decade just past showed a six percent decrease in the proportion of Massachusetts students enrolled in private colleges and universities within the Commonwealth. Clearly, we must rapidly expand the public higher education base.

Given the per student decline in operating budget support, consid-

eration was given as the year ended to cutting back the current allowable quota of 1500 additional students per year for the Amherst campus, unless assurance is given that program quality would not suffer.

Viewed with favor in many quarters was the proposal that an annual growth factor be built into the operating budget. The operating budget for the fiscal year subsequent to that of this report was set at $18 less per student for non-salary items than the already stringent budget for 1968–1969. The results included planned curtailment of many student-oriented programs and support areas, including a shortening of Summer Session to one instead of two six-week terms. Such retrenchment is not likely to have a positive impact on the future scope and quality of University-level education in Massachusetts.

A total of 19,902 students were enrolled in the Fall of the report year, compared with 17,773 the year before. This included 12,638 four-year undergraduates at Amherst (up from 11,784), 3,559 at Boston (up from 2,571), 3,107 in the Graduate School (up from 2,835), and 598 in the two-year Stockbridge School of Agriculture (up from 583).

The year saw the first graduates of the University of Massachusetts at Boston awarded 415 baccalaureate degrees. At Amherst, a total of 2,562 bachelor's degrees and 774 advanced degrees were awarded during the year, more than double the levels of only four years ago.

At Amherst, a freshman class numbering 3,447 (including 340 "swingshift" entrants) was accepted and enrolled, out of a total of 18,346 applicants. There were 12,638 undergraduates at Amherst as the 1968–1969 year began, more than double the total of just six years before. The 1968 Summer Session enrolled a record total of more than 7,000 students.

The number of individual contacts in the Admissions Office at Amherst, through applications, College Board scores, and interviews, reached 170,000 during the year.

Three doctoral and two Master's degree programs were added. New doctoral programs, bringing the University's total to 44, are in Education, Human Movement, and Ocean Engineering. Master's degree programs were added in Art History and Ocean Engineering, bringing the total to 61.

Green Light at Worcester

In a major breakthrough, approval of federal applications for funds for the new Medical School in Worcester was obtained for construction of the medical science building and hospital in the amount of $35,000,000. Also, the Legislature voted and the Governor approved sufficient additional funds to permit the construction of the school and the planning of its teaching hospital. The School is scheduled to admit its first class in September, 1970. Meanwhile, inflation continued to escalate the overall construction cost of the school at the rate of $33,000 per day.

Site Selection at Boston

Creation of a major state University campus in the Boston area took a giant step toward fruition with the acceptance of Columbia Point as the site of the new University of Massachusetts at Boston campus. Land acquisition procedures were begun, and initial Master Plan estimates are for a campus of up to 100 acres. Phase I will encompass about 5,000 students at a cost of about $150 million. Eventual aim is for 15,000 students, including 12,000 undergraduate and 3,000 graduate, achieved by 1980. Plans call for dividing the enrollment among six small colleges of about 2,000 undergraduates and 500 graduates each, to avoid the dangers of excessive size.

On the downtown Boston campus, additional space within five or six minutes' walk of the 100 Arlington Street building was leased as follows: at 131 Arlington Street, for admissions, registrar, advising, classics and German; at 80 Boylston Street, for French, Italian and Spanish; at 308 Boylston Street, for mathematics, and at 172 Columbus Avenue, for English. In addition, a half-million dollars was approved for extensive renovations at 100 Arlington Street, including addition of a mezzanine floor in the main lobby for use as a science library.

An agreement was reached with the Federal government to sponsor the COPE program at the University in Boston for one year. Carrying $84,000 in Federal funds annually, this activity seeks out young people of promise and encourages them to enter college through scholarships and other forms of aid. The three-year-old program was formerly centered at Northeastern University.

The Human Element

The Trustees voted to commend the students, faculty, and administration on all campuses of the University for exercising a high degree of responsibility by coming through the academic year—one of the most troublesome and violent periods in the history of American higher education—without any major strife or disruption of the educational process.

In a special resolution, the Faculty Senate at Amherst commended the involved students and administration for their mutual working out of a potentially disruptive black-white crisis. Another protest, also non-violent, brought state police to the campus to end an administration building sit-in against campus recruitment, focused on the Dow Chemical Company.

A fourteen-member Human Relations Committee was established through the Office of Student Affairs, including members of the faculty and administration. The long-range goals of this group include planning responses to non-creative tensions on campus and helping to develop a stronger sense of community. Regarding race relations as a primary source of campus tension, the committee aims at facilitating interpersonal

and intergroup relations, improving the position of human relations values among the University's goals, improving the climate for learning, rendering manageable some of the University's complexities, and confronting the feelings of some students that they are alienated, isolated, and deprived of identity.

The first 125 Black students in the new Committee for Collegiate Education of Black Students program (CCEBS) took part in a pioneering year of community creation and adaptation. Black-white encounter and racial discussion groups met throughout the year; a massive tutoring program was coordinated with the academic and residential programs, and 23 Black students were trained as assistant counselors with the Orchard Hill residential staff, serving an internship for the second semester.

The CCEBS program was designed to aid Black students in being admitted to the University, to provide needed financial aid, and to furnish the required academic assistance. The aim is academic and personal success for students who would otherwise never have a higher education opportunity because of low grades and SAT scores or lack of funds. The initial CCEBS funding included $150,000 appropriated by the Legislature, $92,000 from the Ford Foundation, and, in an unprecedented action, $30,000 from the Student Senate.

On the personal level, it was a year of transition. Joseph P. Healey of Arlington assumed the chairmanship of the Board of Trustees, succeeding Dr. Frank L. Boyden of Deerfield, whose departure from the chair (but not the Board) is cited elsewhere in this report, and Dr. John W. Lederle announced his intention to retire as President of the University effective in June, 1970.

Dr. Leo F. Redfern, Dean of Administration at Amherst, resigned to become president of Keene State College in New Hampshire. He had served the University since 1961, and is especially remembered for work in legislative liaison, notably his role in moving forward the crucial Fiscal Autonomy bill.

Dr. Edward C. Moore resigned as Dean of the Graduate School and Coordinator of Research. Succeeding him was Dr. M. H. Appley, formerly head of the Psychology Department.

Dr. Jeremiah M. Allen was named to the new post of Associate Provost at Amherst, and Dr. I. Moyer Hunsberger resigned as Dean of the College of Arts and Sciences. Named acting dean was Dr. Seymour Shapiro, head of the Department of Botany. Dr. Joseph Frank was named head of the Department of English, succeeding Dr. Russell K. Alspach.

Three outstanding faculty members at Amherst were named Distinguished Teachers of the Year: Dr. George W. Cannon, professor of chemistry; Dr. Glen Gordon, associate professor of government, and Dr. Richard R. Kofler, associate professor of physics.

More graduate fellowships were available than in any previous year. Those Federally funded increased from 319 to 376, those from private industry declined from seven to five, and the number from state sources increased from 23 to 26. Assistantships of all kinds rose from 874 to 1,254, also a record high. The latter total included 711 teaching assistantships, 457 research assistantships, and 86 service assistantships.

Income for research activity increased somewhat during the fiscal year, while the number of individual grants current fell off sharply. Overall income was $5,354,029 for 465 grants in 1968, and $5,748,491 for 322 grants in 1969. The only categories showing increases in the number of grants were externally-supported training grants, up from 20 to 29, and University-supported faculty growth grants, up from 23 to 25.

The Computer Science Program established a laboratory in the Engineering Building East with two computers, two teletypes tied in with the UMASS time sharing system, and two computer techniques demonstrating devices.

The Research Computing Center added a second CDC-3600 computer, virtually doubling its equipment and vastly increasing its potential. The Drumscope system of batch operation was improved and an APL sub-system designed, the latter adding a potent computer language to the FORTRAN and BASIC already available.

A program of cooperative research with other Massachusetts colleges and universities was begun by the Water Resources Research Center, using funds provided by the Office of Water Resources Research. Both Smith and Springfield Colleges received initial grants, and Northeastern University and Massachusetts Institute of Technology were notified grants would be forthcoming, all through the Center at this University.

A study committee was established to reevaluate the structure and goals of the Student Union Program Council. A total of 331 general University programs were conducted under auspices of the Student Union, including 154 general meetings, 70 film showings, 47 lectures, 21 dances, 19 concerts, 12 banquets and receptions, five conferences and three theatrical performances.

These major events are noteworthy as a reflection of the wide range of current student concern. Personal appearances included Hubert Humphrey, Julian Bond, Strom Thurmond, Jerry Rubin, Janis Joplin, and the Boston "Pops" Orchestra. At the same time, increasing emphasis was given student participation activities as a medium for dialogue on societal change. This was shown in such programs as community life festivals, depicting the emergence of new life styles and their accommodation to traditional patterns, and open forums on such topics as campus recruitment and Viet Nam.

Voluntary student assistance to centers for the orphaned, aged and ill showed a gratifying increase, as did student effort in campus charity drives and programs of tutorial and student-life guidance for fellow students.

Other decisions resulted in authorization of a University Development Office and waiver of tuition for faculty members at other public higher education institutions in Massachusetts.

The concept of establishing an ombudsman as a high administrative official of the University was explored, and work was begun by the Faculty Senate on restructuring the Tenure and Grievance Committee.

It was decided to continue the Freiburg program of study abroad, already three years old, on a three-year basis. Last year saw 13 graduate and nine undergraduate students in the University's Freiburg program. Summer student enrollments in University programs abroad included 85 undergraduates and 55 graduates at Oxford, 47 students at Bologna, and 16 at Madrid.

New Physical Growth

Ground was broken last spring for the new $16.8-million, 28-story library building at Amherst, following the award of an additional $432,574 in Federal funds, bringing the Federal contribution to approximately $2½ million.

Final plans were approved for the $10-million 1970 Residence Hall Project, which is expected to house 1,400 students in three eight-story buildings in the northeast area of the Amherst campus by the fall of 1970.

The Murray D. Lincoln Campus Center was chosen as the name for the fast-growing group of facilities including a new campus center building, 900-car parking garage, and present Student Union. The late Mr. Lincoln, Class of 1914, was president of CARE and a member of the first advisory board of the Peace Corps.

The first of our completely renovated older residence halls was reopened for the beginning of the 1968–1969 school year, and three new residence halls were opened for the first time in the Project 10 area of the Southwest Residential College. The latter three halls brought the residence capacity of the Southwest area to 5,600 students, just 100 more than the total number living in off-campus facilities for the report year.

Also at Amherst, a joint study with the town was authorized regarding the possibility of establishing a fire station and residence hall facility on East Pleasant Street, opposite Eastman Lane.

It was voted to proceed with an addition to the Health Services Building, and the new Thompson Hall facilities were occupied.

In its own efforts to reduce air pollution, the University approved a change from coal to oil heat for the Amherst campus. A new oil-fired boiler plant will be built with natural gas as the secondary fuel.

HEEDE-LINDEN

REPORTS FROM THE SCHOOLS AND COLLEGES

College of Agriculture

The College of Agriculture's four-year enrollment of 805 is the highest in New England, and exceeds that in institutions in such agricultural states as Alabama, North Dakota, Colorado and Washington. Although graduate enrollment decreased nationally, the College's enrollment increased over 15%. The Stockbridge School enrollment of 601 is the highest in the nation for two- or three-year programs.

Three students from Malawi, Africa received B.S. degrees at the May commencement. They have returned to their native land for teaching and professional positions. The three attended the University through the Center for International Agricultural Studies. Of the original contingent of nine Malawi students, two graduated with the Class of 1968, and the remaining four will complete degree requirements in 1970.

The Department of Landscape Architecture has established a limited staff exchange program with the Civil Works Division, U.S. Army Corps of Engineers, to provide faculty with the opportunity to experience planning operations in a federal agency, and agency planners to participate in academic activities. This is the first such program in the country.

A new Department of Hotel and Restaurant Administration was established in February. Studies in this area formerly were offered in a program of the Department of Food Science and Technology.

A trial Course-Instructor Evaluation proved a milestone in the College's efforts to improve courses, teaching effectiveness, and faculty rating procedures. Eight departments, 20 instructors and 850 undergraduate students participated.

A $144,000 grant from the U.S. Department of Agriculture enabled Extension to expand its nutrition work with low-income families starting in January. The objective is to teach homemakers how to plan, buy and use food more effectively. Non-professional extension assistants were recruited, trained by county home economists, and employed to teach disadvantaged homemakers in their neighborhood.

An Urban 4-H Leaders' Institute was held for 25 volunteers who are aiding in the 4-H programs among low-income youth. These leaders, mostly Blacks, were selected specifically to receive training helpful in expanding 4-H urban areas.

Preliminary research conducted with University Research Council funds by Dr. John W. Zahradnik of the Agricultural Engineering Department demonstrated the feasibility of growing oysters commercially under controlled conditions. The state's oyster harvest declined during the past half-century to five percent of the 1920 level, and the current research is aimed at restoring the industry to a significant place in the economy.

College of Arts and Sciences

The College of Arts and Sciences faculty voted 310 to 33 in September, 1968, to approve the Honors Program as proposed by the Interim Honors Committee the previous spring. Professor Everett Emerson of the English Department was appointed chairman of the Honors Committee.

On recommendation of the Foreign Language Instruction Committee, the faculty approved substitution of a foreign language qualification for the College's existing foreign language requirement.

A report entitled, "Education for Living: A Program for the '70's," was prepared by the Academic Affairs Committee of the Student Senate and unanimously endorsed by the Senate itself. This detailed report contains curriculum, program and grading revision proposals, many of which closely parallel recommendations developed simultaneously by faculty committees within the College.

The necessity for instituting a search for a new dean for the College created the occasion for a broad discussion of the possibility of reorganizing the College into more manageable units, something that had been talked about informally for several years.

The faculty, by mail ballot in the spring, expressed favor of partial separation into three Colleges: Fine Arts and Humanities, Natural Sciences and Humanities, Social and Behavioral Sciences. The results of the faculty vote were reported to the University administration. However, no steps were taken to implement this plan in view of the possibility of a reorganization of the entire University system.

The Curriculum Committee recommended that a formally recognized major program should a) have a unifying principle, b) have faculty direction, and c) for a minimal major, consist of at least twelve completely free elective credits. Also recommended was development of more interdisciplinary area majors, such as American Studies, Latin American Studies, Far Eastern Studies, Middle Eastern Studies, Emerging Nations, Russian Studies, African Studies, Population vs. Resources, and Urban Problems.

Another Curriculum Committee recommendation, not yet acted upon, was for individualized majors. Under this, any student might draw up, by the end of his sophomore year, his proposed individual program in detail, obtain the supporting signatures of two faculty members whose fields are pertinent to the program and submit it to an academic dean for approval. The supporting faculty members would, by their signature, agree to assume advisory responsibility for the student.

Two new major programs within the College were approved, one in geography and one in Italian. It was also voted to create a separate Department of Anthropology, effective in September, 1969.

School of Business Administration

In the School of Business Administration, a new Planning and Development Task Force met periodically over the year. The Task Force was charged with the responsibility of defining objectives to be achieved by 1974 and 1980, and developing programs of implementation. This effort involves a review of policies, organization, and programs dealing with all aspects of the teaching, research, service, and development functions of the School.

Meetings held during the summer of 1968 disclosed the need for in-depth studies in several areas. Ad hoc committees were established to study these areas and to submit recommendations to the Dean and to the Task Force. These committees have been concerned with: 1) the role of the School of Business Administration in continuing education; 2) opportunities for collaborative programs to be offered with other divisions of the University; and 3) facilities planning—estimating developing needs for space, facilities and equipment.

During the year, both the M.B.A. and doctoral programs in the School of Business Administration were reviewed in some detail, and a few changes made to up-date the programs. Additionally, a program leading to the degree of Master of Science in Management Science was developed and approved for initiation in the Fall of 1969.

Two other major accomplishments affect the sense of social responsibility felt by the faculty of the School of Business Administration. Program ABLE (Accelerated Business Leadership Education), developed a year ago by Assistant Dean Lawrence Johnson and a sizable group of faculty volunteers, became operational during the first week of June 1969.

The same is true of the BEST Program (Business Employment Skills Training) being offered in the Springfield area under auspices of the Center for Business and Economic Research. In this case, Professor Stephen Michael heads a group of non-compensated volunteers who are providing an evening program in business that will extend over many months for the disadvantaged in the Springfield area.

During the entire 1968–1969 academic year, a student-faculty committee met on a bi-weekly basis. The group was made up of four appointed members from each of the School's four departments plus faculty members selected by the Dean on the basis of their desire to interact with students. The Dean, Associate Dean, and Assistant Dean for undergraduate activity were involved in all meetings. This experiment was successful in establishing a meaningful interchange of ideas.

The JET (Junior Executive Training) Program operated in cooperation with the Experiment in International Living continues to grow. Last year there were a record number of 41 registrants, and this year, approximately 60.

School of Education

The 1968–1969 period was a major Planning Year in the School of Education. Faculty, staff and students, working in conjunction, continued and expanded the School's existing programs, reviewed and reorganized the grading procedures, and designed more than 150 new courses. The School has been restructured around eleven educational centers, which identify and focus the major concerns. These are the Centers for Aesthetics in Education, Counselor Education, Educational Research, Humanistic Education, International Education, Leadership in Educational Administration, Educational Media and Technology, Foundations of Education, Urban Education, and Teacher Education.

The School has expanded the definition of faculty to include all full-time graduate students. Virtually the entire faculty is involved in the short and long range planning of future programs. The past year's rapid pace has served to develop a feeling of momentum within the School and has thus readied it for innovation, experimentation and change. The outgrowth of this freedom has been significant achievement, as exemplified by the following:

—35 planning committees developing courses and experiences ranging from the most traditional to those at the forefront of innovation, in areas such as urban education, humanistic education, leadership development, aesthetics, media, technology, systems and computers, international education, human relations, and student-centered learning, as well as programs more conventional to a school of education.

—two educational "marathons" which included more than 200 events, seminars, films, demonstration exercises, lectures, and activities on new departures in education. The marathons were attended by several thousand undergraduates, teachers, and school administrators from all over the Eastern seaboard.

—the establishment of off-campus training centers for University students in Hartford, Springfield, Temple City (California), and elsewhere.

—a Model Elementary Teacher Education Program, one of nine chosen by the U.S. Office of Education from more than 90 University proposals throughout the nation.

—the development of a kindergarten through 12th grade teacher education program, an approach which offers substantial alternatives to the traditional elementary-secondary dichotomy in teacher education.

School of Engineering

The School of Engineering has adopted a 128-credit-hour limit for each of the six undergraduate programs offered, and at the same time agreed to a relatively uniform freshman year program. Within this framework, all departments reevaluated their entire course offerings, and in the Spring new curricula were approved in each of the departments. The new programs can be characterized by somewhat surprising similarities. In each, the senior year allows for much greater flexibility in program formation, and there is a great emphasis on independent project work.

In a reorientation of the freshman program in the School of Engineering, the Basic Engineering program was disbanded in June, 1969. At the same time, a new procedure for advising engineering freshmen was implemented. In the past, the five Basic Engineering faculty members advised the entire freshman class, which resulted in limited attention to the individual student. The new procedure involves the students being asked to give a tentative departmental preference if they have one. Those students indicating such preference are assigned advisers from the degree-granting departments. Those students who do not make a choice will be assigned an adviser. Each department is contributing advising staff based on approximate enrollments. These procedures should result in an adviser being available to from six to 10 students for their entire freshman year.

A new graduate program in Ocean Engineering was approved at the end of the year. The Commonwealth of Massachusetts, with a 1500-mile coastline, enjoys a vast wealth of ocean resources and its economy benefits greatly from a highly developed ocean industry. With one-fifth of the Nation's oceanographic industry already established in the Commonwealth, it is evident that Massachusetts has a substantial commitment to the development of marine resources and ocean technology. The Ocean Engineering program will be administered as a degree-granting subdivision of the Civil Engineering Department.

Cooperative efforts of the Department of Public Health, College of Agriculture and the Environmental Engineering Group in the School of Engineering have resulted in the award of a training grant averaging $50,000 a year over the next five years from the National Air Pollution Control Agency. Students in any of the disciplines related to Air Pollution studies can participate in the program.

Project THEMIS has been funded for another year, extending support for our work in deep-sea technology through 1972. In December, 1968, the first joint Symposium of the University of Massachusetts and the University of Notre Dame on deep-sea submersibles was held at Notre Dame. The University of Massachusetts will host the second joint symposium in the spring of 1970.

School of Home Economics

A major effort in analysis and evaluation was made within the School of Home Economics during 1968–1969, the first full year under new Dean Helen G. Canoyer. A Student-Faculty Committee was established in each department, and an approach was made toward decreasing the number of required courses and increasing the number of electives.

Since the early 1960s, the problems of low-income families have been of major concern to the School, with the focus provided by the Extension Division of Home Economics. In December, 1968, Massachusetts Cooperative Extension received $144,000 from the U.S.D.A. to expand the food and nutrition program with the low-income audience, the money to be used before July 1, 1969, to hire low-income women to teach their neighbors. Other states also received similar funding.

The first step, in early 1969, was to train 142 women recruited from the low-income population living in nine cities and five rural towns of the state. The recruits were given 120 hours of intense nutrition training over three to four weeks. One hundred and eighteen were hired as program assistants, to work from 10 to 40 hours a week as was best suited to their home circumstances. The assistants taught by means of home visits and small group meetings. Other agencies working with the low-income area were cooperative in referring families to the program.

In three months the Extension Service, Division of Home Economics, has involved between 500 and 600 low-income families in an educational program, including the assistants.

Other problems to which the Division has given special attention are Sex Education, Consumer Problems of the Urban Poor, Management for the Blinded Homemaker, and American Dress and Decoration.

School of Nursing

During the 1968–1969 academic year, a bold new approach was initiated by the School of Nursing in line with the effort to humanize our structure. Freshman students were involved in Sensitivity Training, and five nursing faculty have received training as co-leaders. Since nursing, as all caring professions, is concerned basically with people, the freshman students were being oriented in a helping relationship.

The funding of a grant proposal for developing a laboratory in community nursing was approved by the U. S. Public Health Service, Division of Nursing, for five years beginning February 1, 1969. This grant has made it possible to appoint a Project Director for the purpose of identifying, developing and extending the learning experiences for an increased number of students in a concentrated geographic area of Springfield where the population consists of a preponderance of Black and Puerto Rican families, and to appoint a Public Health Nurse faculty

member, on a calendar year basis, for the purpose of directing the students providing public health nursing to the children attending Well Child Conferences, in schools, and to families in the geographic area. The necessity for a comprehensive health center becomes increasingly obvious as the multiple problems facing these families are seen by professionals with a humanistic concern for people. Change in community attitude, and that of some members of the medical profession, must occur before such a health center can become a reality.

A faculty grant has been awarded for the purpose of studying the attitudes of young Afro-American women as to professional service. This is the initial step in the School's plan to interest Black students in Springfield in the rewards and values of professional nursing. Relatively few high school graduates from Springfield, with a large Black population, seek admission to professional schools of nursing.

School of Physical Education

The 1968–1969 intercollegiate athletic performances rank among the best in the University's history. Basketball, indoor and outdoor track, baseball and tennis all won Yankee Conference Championships. Redmen performance in conference championship competition was again outstanding. As a result the University won the Yankee Conference's Frank Keaney Trophy for the fifth consecutive year. The varsity basketball team completed one of its most successful seasons. The baseball team climaxed a fine season by winning the New England championship and representing District I in the College World Series in Omaha. The lacrosse, tennis and rifle teams all completed undefeated seasons. The lacrosse team won its New England league title with a perfect 10-0 record; the team has lost but one game in the past two years. Four members of the team were Little All-American choices at the conclusion of the season.

During the past year the Intramural Department assumed responsibility for supervising free play activities on campus, and a total of 31,799 participations were logged. For the first time scheduled Free Play opportunities were available during all examination periods, semester breaks, and vacation periods.

Department of Public Health

The program for accreditation of the Department of Public Health's community health education curriculum by the American Public Health Association was approved and made ready for implementation. Accreditation will make possible the award of traineeships.

A joint proposal with the Departments of Civil Engineering and Chemical Engineering for a graduate program in air pollution was

approved by the U. S. Public Health Services and several traineeships made available.

The department was again awarded a grant for extension of the medical technology program under the terms of the Allied Health Professions Training Act.

A joint proposal was drawn up by faculty from the Departments of Public Health, Psychology, and Sociology for the study of race consciousness as a factor in family planning. Preliminary grant support was awarded by the National Institute of Mental Health to develop the instrument to be used for the larger survey. This new area, which has not been studied in depth by other investigators, holds considerable promise for the future.

The year also saw increasing involvement of students in discussions and decision-making in the Department of Public Health. A student organization, formed by departmental majors entirely on student initiative, requested and was granted an opportunity to participate in all faculty meetings. One practical result has been a highly successful course evaluation worked out jointly by faculty and students. In addition, students have participated actively in interviewing candidates for faculty positions.

Department of Military and Air Science

A subcommittee on military studies was appointed to review all matters pertaining to the curriculum of the military departments including credits, new courses, and programs in order to insure compatibility with normal University standards and to screen candidates. This group was directed by the Faculty Senate to study the following four items: 1) the possibility of a significant increase in non-military faculty participation and interdisciplinary character; 2) the structural relationship of the Department of Military and Air Science to other units of the University; 3) amount of academic credit to be given for the various levels of the ROTC program, present and proposed; 4) the matter of possible restrictions by the Department of Defense on choice of specific instructional materials for military science courses.

The Precisionettes, the University's all-women drill team now under sponsorship of the Department of Military Science, took first place in the Pershing Rifles 12th Regimental coed-drill competition in Boston.

The Department of Air Science, in conjunction with Headquarters AFROTC, updated all areas of its curriculum to keep pace with aerospace-age technology.

The Arnold Air Society, a cadet honor group, initiated a high school visitation program and continued their work with the Boy Scouts and Civil Air Patrol.

Remarks of President Lederle on the occasion of Dr. Frank L. Boyden's retirement as Chairman of the Board of Trustees:

The contribution of Frank L. Boyden as member and chairman of this Board of Trustees spans the history of the University since it was a state college. He was first appointed by Governor Saltonstall in January of 1943. Except for a brief four-year period, he has served continuously ever since.

The changes that have taken place during his tenure of service to date, and particularly during his chairmanship, have been truly fantastic. In 1942—the last year before his appointment—our enrollment was 1,140 and the annual state operating budget amounted only to $1,160,460. Before his first term as trustee had expired, we were no longer a State College, but a University.

In the early fifties, during his second term, the University waged a successful fight to gain a measure of autonomy through enactment of the so-called Freedom Bill. This was one of the truly great turning points toward quality growth.

By 1959 when he assumed the Acting Chairmanship, the University's enrollment stood at 6,131 and its budget at $9,532,629. He became Chairman in 1960.

Under his leadership, there began a Great Decade of Progress. In 1962, the Autonomy Bill was passed. This Act was the single most important piece of legislation in our history. This was also the year of establishment of the Medical School. In 1964, a campus of the University of Massachusetts was authorized in Boston.

From that time to the present, the University of Massachusetts has moved upward in quality and quantity until now it is taking its place in the nation among institutions of the first rank. This year, as Mr. Boyden leaves the chair, we have an enrollment of 20,111 and the state appropriated operating budget amounts to $41,222,900. This is an almost unparalleled record of achievement in American higher education under the Board Chairmanship of one man.

But beyond all of the accomplishments that show on the record, I would like to add in behalf of each Trustee a personal note of deep appreciation for the brand of leadership Mr. Boyden has given to the Board simply because of the kind of man he is: rich in experience and wisdom, gentle, fairminded and broad-gauged. It is within the expression of these qualities that he has shaped our forward progress and, at the same time, endeared himself to all of us: students, faculty, administrators and trustees alike.

After such a long and distinguished watch at the helm, we cannot fault him for relinquishing the rudder. Fortunately, he will still be aboard as a most highly valued member of the crew. And so, we express our deep and lasting gratitude not only for his achievements, but also for just being himself.

We are encouraged to know that his loyal and devoted service is not at an end. We look forward keenly to the great contributions he will make from this time forward as still new chapters are written in his record as one of America's greatest all-time figures on the educational scene.

Report of the Treasurer

Summary of Operating Funds
Fiscal Year Ending June 30, 1969

Where the Operating Dollar Comes From . . . Amherst, Boston, Worcester

	Total Amount	Percent of Total
Funds from University Receipts:		
Tuition	$ 4,101,569.89	4.50
Residence Halls	461,058.03	.51
Sales and Services	874,332.98	.96
Total University Receipts	5,436,960.90	5.97
Net Funds from Taxpayers of the Commonwealth	41,613,375.84	45.66
Sub-Total	47,050,336.74	51.63
Federal Government	14,978,689.44	16.43
Student Activities	1,943,918.16	2.13
Student Aid Funds	279,944.64	.31
Student Loan Funds Notes Receivable	2,612,932.65	2.87
Gifts and Grants	3,394,814.67	3.73
Auxiliary Enterprises	18,096,035.69	19.86
Endowment Income	149,504.84	.16
Agency Funds	2,628,912.78	2.88
Total Funds Available	$91,135,089.61	100.00

How It Is Spent . . . Amherst, Boston, Worcester

	Total Amount	Percent of Total
Instruction		
State Funds	$22,948,827.56	27.62
Federal Funds	2,317,271.45	2.79
Gifts and Grants	974,938.11	1.17
Total Instruction	26,241,037.12	31.58
Library	2,617,251.75	3.15
Research	7,064,760.14	8.50
Public Service		
Agricultural Extension	1,457,210.34	1.76
State Agricultural Control Services	374,404.22	.45
Operation of Plant and Space Rentals	9,988,902.35	12.02
Administration	3,629,091.44	4.37
Student Service	1,389,993.02	1.67
Scholarships	1,446,564.79	1.74
Student Loan Funds Notes Receivable	2,795,840.26	3.37
Student Activities	1,882,737.20	2.27
Auxiliary Enterprises	15,984,940.02	19.24
Agency and Miscellaneous	8,206,338.95	9.88
Total Funds Used	83,079,071.60	100.00
Balance Carried Forward (Restricted Funds*)	8,056,018.01	
Total Funds Used and Balances	$91,135,089.61	

*Balances, restricted funds, beginning of report year, $7,569,488.82

Columbia Point—Newly approved site of the University of Massachusetts at Boston

THE UNIVERSITY OF MASSACHUSETTS

Amherst Boston Worcester

FINANCIAL REPORT

FOR THE YEAR ENDED JUNE 30, 1969

UNIVERSITY OF MASSACHUSETTS

Amherst Boston Worcester

FINANCIAL REPORT

FOR THE YEAR ENDED JUNE 30, 1969

Kenneth W. Johnson
Treasurer

BOARD OF TRUSTEES

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Edmund J. Croce	Worcester
Dennis Michael Crowley	Boston
Robert D. Gordon	Lincoln
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Frederick S. Troy	Boston
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Francis L. Broderick, Chancellor, University of Massachusetts, Boston
Lamar Soutter, Dean of the School of Medicine, Worcester
Robert J. McCartney, Secretary
Kenneth W. Johnson, Treasurer
Robert H. Brand, Associate Treasurer
William H. Maus, Acting Controller

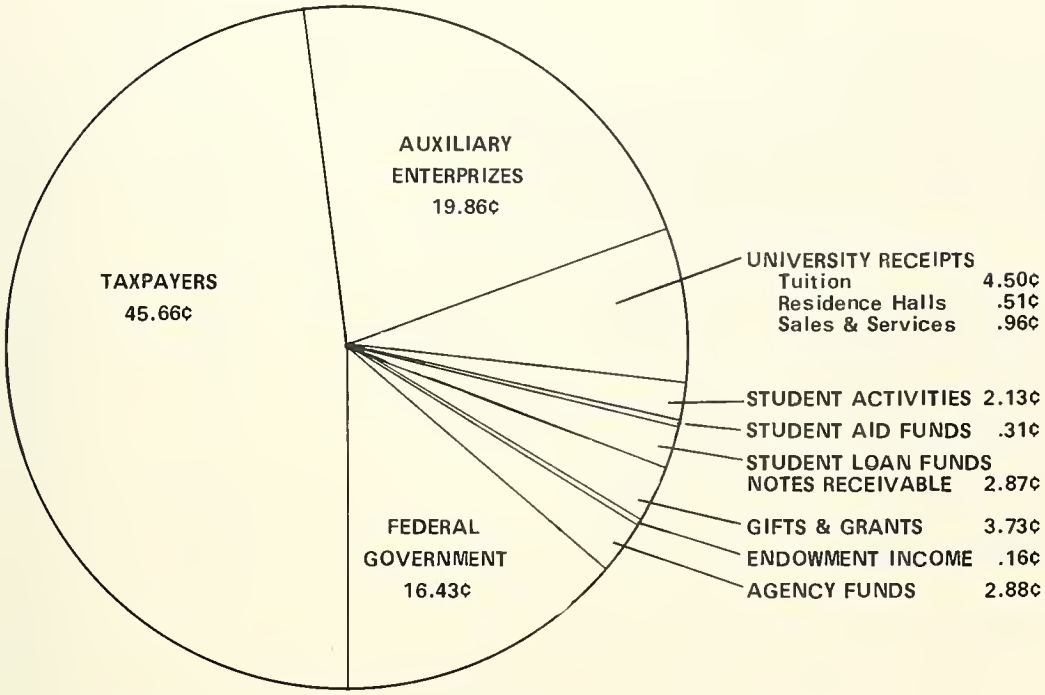
Audit

In accordance with state law, all accounts of the University are examined each year by the State Auditor. The last audit covered the period of this report from July 1, 1968 to June 30, 1969.

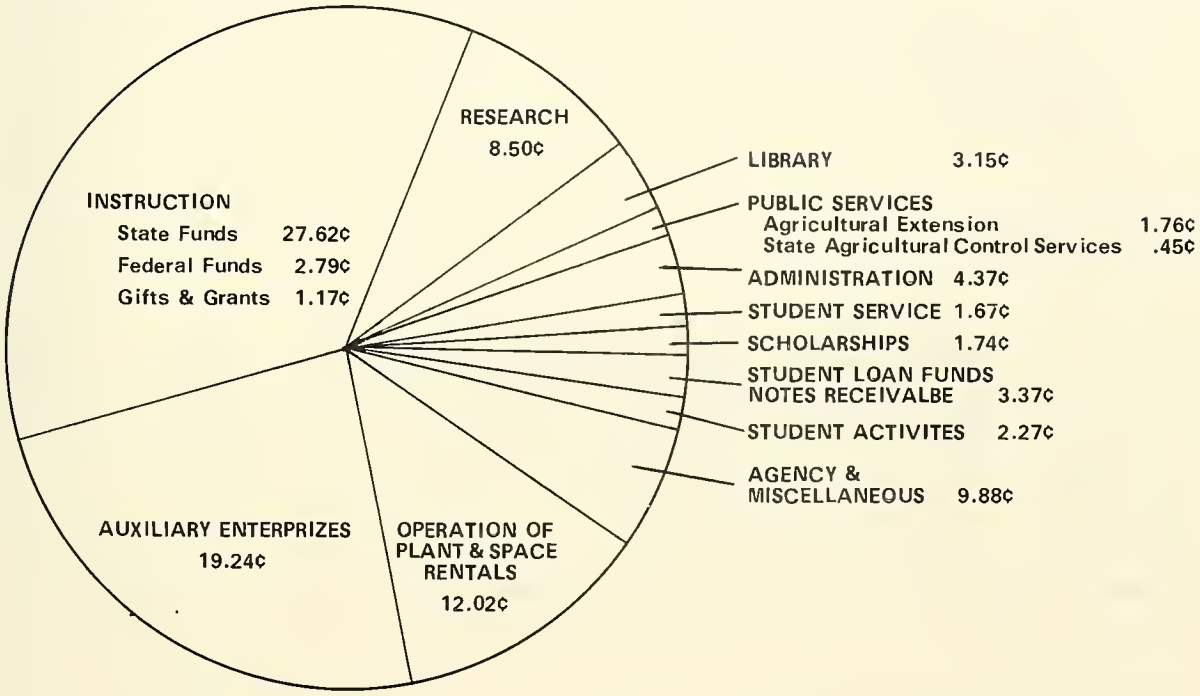
All statements and schedules of state funds contained herein have been examined and verified by the Comptroller's Bureau of the Commonwealth.

REPORT OF THE TREASURER – AMHERST–BOSTON–WORCESTER

Summary of Operating Funds – Fiscal Year Ending June 30, 1969



WHERE THE OPERATING DOLLAR COMES FROM . . .



HOW IT IS SPENT . . .

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Schedule A

Balance Sheet as of June 30, 1969

Assets

I. State Funds		
Appropriation Balances held by State Treasurer:		
Maintenance	$ 126,551.89	
Other Maintenance	302,363.93	
Capital Outlay (a)	2,185,965.24	
Federal Grants and State Technical Services	83.02	
Accounts Receivable	21,227.99	
Inventory Supplies	418,148.69	
		$ 3,054,340.76
II. Federal Funds		
Cash - First National Bank of Amherst - Checking Account	319,686.71	
Notes Receivable - National Defense Student Loans	2,679,983.01	
Notes Receivable - Nursing Loan Program	63,377.40	
		3,063,047.12
III. Endowment Funds		
Income - First National Bank of Amherst - Checking Account	78,798.56	
Income - Amherst Savings Bank - Savings Account	10,000.00	
Income - First National Bank of Amherst - Trust Department	9,363.62	
Principal - First National Bank of Amherst - Trust Department	1,336.63	
Principal - Amherst Savings Bank	2,531.79	
Principal - Pool Investment Securities	1,071,155.99	
Principal - Investment in Land	152,905.40	
Unamortized Premium on Pool Investments	2,611.22	
		1,328,703.21
IV. Trust and Agency Funds		
Operating Accounts:		
Cash on Hand	32,542.10	
First National Bank of Amherst	58,228.06	
First National Bank of Boston	120,500.00	
State Street Bank and Trust Company	13,634.96	
Variable Interest:		
First National Bank of Boston	1,003,705.94	
Certificate of Deposit:		
Commerce Bank and Trust Company	100,000.00	
First National Bank of Boston	1,000,000.00	
Heritage Bank and Trust Company	100,000.00	
National Shawmut Bank of Boston	1,000,000.00	
State Street Bank & Trust Company	325,000.00	
Worcester County National Bank	200,000.00	
Savings Accounts:		
Amherst Savings Bank	138,248.69	
Bay State Savings Bank	50,000.00	
Berkshire County Savings Bank	3,197.98	
Easthampton Savings Bank	70,000.00	
East Cambridge Savings Bank	32,387.60	
Lynn Institution for Savings	50,000.00	
Provident Institution for Savings	30,000.00	
Springfield Five Cent Savings Bank	50,000.00	
Union Savings Bank	50,000.00	
Ware Savings Bank	66,600.88	
Woronoco Savings Bank	50,000.00	
Securities:		
62 shares Ocean Spray Cranberries, Inc. 4 % Preferred	1,240.00	
66 shares Ocean Spray Cranberries, Inc. Common	1,650.00	
Notes Receivable	52,479.85	
New England Society of New York - Petty Cash	996.00	
		4,600,412.06
V. U of M Trustee, U of M Building Authority		
First Project	33,463.63	
Second Project	65,579.85	
Fourth Project	106,668.61	
Sixth Project	38,165.86	
Eighth Project	134,543.44	
Tenth Project	97,109.30	
		475,530.69
VI. Plant Funds		
Land	3,689,140.00	
Buildings (b)	60,513.540.00	
Improvements other than Buildings	14,744,265.16	
Equipment	32,939,038.00	
		111,885,983.16
Total Assets		$124,408,017.00

(a) Does not include appropriations for the University that are under the supervision and control of the State Bureau of Building Construction.

(b) The University leases from the University of Massachusetts Building Association thirteen dormitories, two apartment buildings and a Student Union Building representing an investment of $11,595,548.14. The principal is amortized and the buildings eventually become the property of the University. The University of Massachusetts Building Authority operates twenty-two dormitories, four dining commons and a stadium with a total investment of $39,607,700.00. These buildings will also become the property of the University when the bonds are redeemed.

Schedule A

Balance Sheet as of June 30, 1969

Liabilities, Reserves and Fund Balances

I. State Funds		
Total Appropriation Balances	$ 2,614,964.08	
Due State Treasurer	21,227.99	
Expendable Supplies	418,148.69	
		$ 3,054,340.76
II. Federal Funds		
Balance Federal Appropriations (Schedule B-7)	288,832.06	
National Defense Loan Fund (Schedule A-6)	2,709,572.41	
Nursing Student Loan Program (Schedule A-6)	64,386.65	
Unpaid Check Fund	256.00	
		3,063,047.12
II. Endowment Funds		
Income on Investments (Schedule A-4)	98,160.32	
Principal of Fund (Schedule A-5)	1,137,621.78	
Reserve for Profits and Losses on Pool Investments	92,919.25	
Unpaid Check Fund	1.86	
		1,328,703.21
IV. Trust and Agency Funds		
Student Loan Funds (Schedule A-6)	118,918.23	
Scholarships and Fellowships (Schedule B-8)	186,373.92	
Miscellaneous Trust Funds (Schedule B-9)	4,014,582.10	
Total Trust Funds	4,319,874.25	
Agency Funds (Schedule B-10)	280,537.81	
		4,600,412.06
V. U of M Trustee, U of M Building Authority		
First Project	33,463.63	
Second Project	65,579.85	
Fourth Project	106,668.61	
Sixth Project	38,165.86	
Eighth Project	134,543.44	
Tenth Project	97,109.30	
		475,530.69
VI. Plant Funds		
Net Investment in Plant		111,885,983.16
Total Liabilities, Reserve and Fund Balances		$124,408,017.00

Schedule B

Summary of Receipts, Transfers and Balances

(Includes All Units of the University)

I.	State Appropriations				
	General Maintenance (Schedule B-1)	$39,237,700.00			
	Prior Year Appropriation	199,102.37			
			$39,436,802.37		
	Other Maintenance (Schedule B-1)	1,615,816.56			
	Prior Year Appropriation	109,675.16			
			1,725,491.72		
			41,162,294.09		
	Less: Balance reverted to State Treasurer		23,376.80		
				$41,138,917.29	
	Capital Outlay (a) (Schedule B-2)				
	Balance July 1, 1968		2,723,441.22		
	Current Year Appropriation		3,187,895.21		
				5,911,336.43	
	Federal Grants (Held by State Treasurer)				
	Grant #4550-09 (Schedule B-6)			54.82	
	State Technical Services				
	Grant #4550-00 (Schedule B-6)			28.20	
	Net Total - State Appropriations				$ 47,050,336.74
II.	Federal Appropriations (Schedule B-7)				
	Balance July 1, 1968		237,555.51		
	Current Year Receipts		2,075,325.39		
	Total - Federal Appropriations				2,312,880.90
III.	Endowment Fund Income (Schedule A-4)				
	Balance July 1, 1968			91,049.39	
	University Endowment Fund Income			55,088.73	
	Transfers			51,783.22	
	State Endowment Fund Income			3,366.72	
	Total				201,288.06
IV.	Student Loan Funds (Schedule A-6)				
	Balance July 1, 1968		2,612,932.65		
	Interest Income and Additions		343,319.70		
				2,956,252.35	
	Less: Loans Cancelled (for services as teachers, etc. per NDEA)			63,375.06	
	Net Total				2,892,877.29
V.	Revolving Trust Funds (Schedule B-9)				
	Balance July 1, 1968			3,421,474.30	
	Current Year Receipts			27,527,406.22	
	Total				30,948,880.52
VI.	Agency Funds (Schedule B-10)				
	Balance July 1, 1968			239,287.30	
	Current Year Receipts			2,389,625.48	
	Transfers			11,374.84	
	Total				2,640,287.62
VII.	Student Aid Funds (Schedule B-8)				
	Balance July 1, 1968			140,635.93	
	Current Year Receipts			159,786.56	
	Transfers			444,708.59	
	Total				745,131.08
VIII.	U of M Trustees for U of M Building Authority (Schedule B-11)				
	Balance July 1, 1968			333,331.49	
	Current Year Receipts			4,517,942.56	
	Transfers			1,378,035.82	
	Total				6,229,309.87
	Total - Receipts, Transfers and Balances				93,020,992.08
	Less: Transfers (Contra) per terms of trust agreement, etc.				1,885,902.47
	Net Total - Receipts and Balances				$ 91,135,089.61

(a) This figure does not include appropriations for the University that are under the supervision and control of the State Bureau of Building Construction.

Schedule B

Summary of Expenditures, Transfers, and Balances

(Includes All Units of the University)

I. State Appropriations		
Administration		$ 3,426,591.72
Resident Instruction		26,753,462.62
Experiment Station		1,184,924.24
Control Service		374,404.22
Extension Service		626,625.64
Operation of Plant		6,871,132.54
Sub-Total		$ 39,237,140.98
Other Maintenance (Schedule C)		1,472,860.49
Capital Outlay (Schedule B-5)		3,725,371.19
Total State Appropriations Expenditures		$ 44,435,372.66
Balance - State Appropriations, June 30, 1969		2,614,964.08
Total		47,050,336.74
II. Federal Appropriations (Schedule B-7)	$ 2,024,048.84	
Balance, June 30, 1969	288,832.06	
Total		2,312,880.90
III. Endowment Income (Schedule A-4)	51,344.52	
Transfers	51,783.22	
Balance, June 30, 1969	98,160.32	
Total		201,288.06
IV. Student Loan Fund (Schedule A-6)		
Balance, June 30, 1969		2,892,877.29
V. Revolving Trust Funds		
Expenditures (Schedule B-9)	26,478,214.99	
Transfers	456,083.43	
Balance, June 30, 1969	4,014,582.10	
Total		30,948,880.52
VI. Agency Funds		
Expenditures (Schedule B-10)	2,359,749.81	
Balances	280,537.81	
Total		2,640,287.62
VII. Student Aid Funds (Schedule B-8)		
Expenditures	558,757.16	
Balance, June 30, 1969	186,373.92	
Total		745,131.08
VIII. U of M. Trustee for U of M Building Authority (Schedule B-11)		
Expenditures	4,375,743.36	
Transfers	1,378,035.82	
Balance, June 30, 1969	475,530.69	
Total		6,229,309.87
Total - Expenditures, Transfers and Balances		$ 93,020,992.08
Less: Transfers (Contra) - per terms of trust agreements, etc.		1,885,902.47
Net Total - Expenditures and Balances		$ 91,135,089.61

Schedule A-1

Endowment Funds - Principal
as of June 30, 1969

Summary of Investments

	Cost or Book Value		% of Total
Pooled Investments:			
Bonds and Notes			
Governments	$163,983.29		13.32
Public Utilities	212,626.41		17.28
Industrials	60,153.20		4.89
		$ 436,762.90	35.49
Mortgages		13,500.00	1.10
Preferred Stock		7,200.00	.59
Common Stock			
Financial	$ 52,167.83		4.24
Industrials	502,178.32		40.81
Utilities	61,958.16		5.03
		616,304.31	50.08
Total Pooled Securities		$1,073,767.21	87.26
Cash			
Amherst Savings Bank - Savings Account	$ 2,531.79		.20
First National Bank of Amherst - Checking Account	200.00		.02
First National Bank of Amherst - Uninvested Cash	1,136.63		.09
Total Cash		3,868.42	.31
Total Pooled Investments		$1,077,635.63	87.57
Non-Pooled Investments:			
Land			
Lincoln Land		152,905.40	12.43
Total Endowment Principal - Cost or Book Value		$1,230,541.03	100.00

Schedule A-2

Endowment Funds - Principal

Statement of Pool Investments
as of June 30, 1969

Description	Date of Acquisition	Cost or Book Value	Market Value
Government Bonds and Notes			
35,000 U.S. Treasury 4 1/8's due February 15, 1974	8/14/67	$ 34,792.19	$ 31,368.75
55,000 U.S. Treasury 5's due November 15, 1970	8/14/67	55,008.60	53,264.06
25,000 Federal Home Loan Bank 8's due June 26, 1970	6/30/69	25,031.25	25,031.25
25,000 Federal National Mortgage Association 5.20's due January 19, 1977	9/22/67	24,125.00	22,562.50
25,000 International Bank for Reconstruction and Development 4 1/2's due February 1, 1999	7/15/65	25,026.25	18,250.00
Total - Government Bonds and Notes		$ 163,983.29	$ 150,476.56
Public Utility Bonds			
20,000 American Telephone and Telegraph Company debenture 4 3/8's due May 1, 1999	7/10/63	$ 20,041.66	$ 14,000.00
25,000 Boston Edison Company First Mortgage 6 1/8 due June 1, 1997	9/22/68	25,583.34	22,312.50
20,000 Commonwealth Edison Company First Mortgage V 5 1/4's due April 1, 1996	7/25/66	19,875.00	16,100.00
25,000 Florida Power and Light Company First Mortgage 4 3/8's due December 1, 1986	2/6/59 7/16/68	21,800.00	18,625.00
25,000 Florida Power and Light Company First Mortgage 7's due June 1, 1998	6/30/68	25,664.59	24,625.00
25,000 Philadelphia Electric Company First and Refunding Mortgage 4 5/8's due September 1, 1987	11/26/57 7/16/68	22,212.88	19,000.00
10,000 Public Service Electric and Gas Company First and Refunding Mortgage 4 5/8's due August 1, 1988	10/6/58	10,237.50	7,537.50
25,000 Southern Bell Telephone Company debenture 4 3/8's due April 1, 2001	7/15/65	24,437.50	16,656.25
4,000 Southern National Gas Company First Mortgage Pipe Line Sinking Fund 4 3/4's due January 1, 1979	4/24/59	4,121.95	3,320.00
20,000 Southern California Edison Company First Refunding 4 1/2's due February 15, 1990	7/15/65	20,063.00	14,750.00
20,000 Southwestern Bell Telephone Company debenture 4 3/4's due October 1, 1992	10/17/58 12/18/58 6/30/68	18,588.99	15,225.00
Total Public Utility Bonds		$ 212,626.41	$ 172,151.25
Industrial Bonds			
20,000 General Motors Acceptance Corporation debenture 4 5/8's due June 15, 1986	7/6/64	$ 20,159.20	$ 14,400.00
20,000 Gulf Oil Corporation debenture 5.35's due June 15, 1991	7/25/66	20,044.00	16,400.00
20,000 Shell Oil Corporation Sinking Fund debenture 4 5/8's due August 1, 1986	8/3/61	19,950.00	15,600.00
Total Industrial Bonds		$ 60,153.20	$ 46,400.00
Mortgages			
Massachusetts Kappa Corporation of Sigma Alpha Epsilon 4%	11/1/51	$ 2,500.00	$ 2,500.00
Theta Corporation of Theta Chi Fraternity 4%	10/9/54	11,000.00	11,000.00
Total Mortgages		$ 13,500.00	$ 13,500.00

Schedule A-2 (continued)

Endowment Funds - Principal

Statement of Pool Investments
as of June 30, 1969

No. of Shares	Description	Date of Acquisition	Cost or Book Value	Market Value
	Preferred Stock			
288	F.A. Bartlett Tree Expert Company	6/20/66	$ 7,200.00	$ 7,200.00*
	Total Preferred Stock		$ 7,200.00	$ 7,200.00
	Common Stock			
	Financial			
223	Bankers Trust New York Corp.	6/20/66	$ 14,021.13	$ 14,829.50
300	First National City Bank of New York	5/11/65-7/1/65	18,328.55	19,500.00
500	Security Pacific National Bank	6/30/69	19,818.15	19,312.50
	Total Common Stock - Financial		$ 52,167.83	$ 53,642.00
	Industrial			
300	Addressograph-Multigraph Corp.	12/18/68	$ 24,403.77	$ 22,275.00
500	American Metal Climax, Inc.	12/26/63-12/18/68	21,639.68	21,812.50
6	Bartlett Realty Co., Inc.	6/20/66	13,926.00	13,926.00*
1000	Bartlett Tree Expert Company	6/20/66	57,000.00	57,000.00*
300	Clark Equipment	12/26/63	6,661.50	10,050.00
300	Continental Can Company	6/30/69	21,138.00	19,500.00
147	E.I. duPont de Nemours and Company	7/19/51-2/3/59	4,560.45	19,201.88
800	Federated Department Stores	12/18/68-6/30/69	28,216.65	29,400.00
186	General Electric Company	7/14/61-6/25/64-6/20/66	14,335.47	16,879.50
300	General Foods Corporation	6/30/69	23,803.17	24,300.00
301	General Motors Corp.	12/31/63-1/6/65-6/20/66	24,825.69	23,177.00
800	Goodyear Tire & Rubber Company	12/26/63-5/19/67	17,324.31	23,500.00
604	Gulf Oil Corp.	7/7/61-12/29/61-6/20/66-12/31/68	14,838.96	22,952.00
400	Hercules, Inc.	5/5/65	17,914.76	15,700.00
80	I.B.M. Corp.	9/30/66-9/30/67-12/18/68	16,811.13	26,520.00
400	Magnovox	6/30/69	18,316.76	18,600.00
300	Mobil Oil Corp.	6/20/66	12,060.54	17,700.00
200	Minnesota Mining and Mfg. Co.	10/6/67	18,021.22	20,200.00
700	Northwest Airlines	6/30/69	22,996.75	22,312.50
500	J.C. Penny Company	9/30/66-12/31/68	14,508.44	26,062.50
350	Charles Pfizer and Company	9/30/66-12/18/68	24,021.00	28,218.75
677	Scott Paper Company	8/4/67	13,035.06	19,463.75
300	Smith, Kline and French Lab.	7/26/68	15,357.69	11,850.00
800	The Southern Company	5/2/57-6/20/66	17,102.62	21,400.00
300	Standard Oil Company of Indiana	7/19/51-10/23/64	6,556.25	18,825.00
323	Standard Oil Company of New Jersey	7/19/51-12/26/63-9/30/66	8,231.07	25,113.25
400	Travelers Corp.	5/19/67-9/22/67	12,906.50	11,900.00
400	U.S. Plywood-Champion Papers, Inc.	7/26/68	11,664.88	13,100.00
	Total Common Stock - Industrial		$ 502,178.32	$ 600,939.63
	Utility			
858	American Telephone and Telegraph Co.	7/19/51-1/19/65	$ 25,566.43	$ 46,653.75
440	Baltimore Gas and Electric Company	5/2/57-11/24/59-6/30/69	8,234.76	13,585.00
394	Commonwealth Edison Company	7/19/51-12/31/64	8,141.52	17,040.50
1158	Northeast Utilities	12/31/68	11,468.68	19,686.00
1200	Virginia Electric Power Company	1/31/54-12/26/63	8,546.77	31,500.00
	Total Common Stock - Utility		$ 61,958.16	$ 128,465.25
	Total Pooled Investments		$1,073,767.21	$1,172,774.69

*Book Value - no quotation available

Schedule A-3

Endowment Funds - Principal

Statement of Investments Not in Pool Fund
as of June 30, 1969

Land	Date of Acquisition	Cost or Book Value
Murray D. Lincoln	3/11/58	$ 41,765.00
	12/31/58	16,795.00
	2/23/60	33,600.00
	2/28/61	24,068.90
	1/17/62	36,676.50
Total - Land		$152,905.40

Schedule A-4

Endowment Income

Statement of Receipts, Disbursements and Balances

Name and Purpose of Fund	July 1, 1968	Receipts from Investments	Disbursements	Balance June 30, 1969
Income Designated for General Purposes, Student Aid, Scholarships, Loans:				
Alpha Sigma Phi	$ 394.72	$ 327.58	$ 350.00	$ 372.30
Alvord Dairy	245.87	193.63	245.00	194.50
Ascension Farm School	6,500.07	5,709.23	6,500.00	5,709.30
Danforth Keyes Bangs	273.21	270.42	200.00	343.63
Seymour Barowsky	293.43	230.57	250.00	274.00
John Thomas and Nancy Butterworth	481.06	461.45	450.00	492.51
Buttrick	1,840.07	599.13	14.52	2,424.68
Lucius Clapp	470.28	628.21	225.00	873.49
Addison H. Clarke Memorial	-0-	-0-	-0-	-0-
The Class of 1882	126.25	79.67	164.83	41.09
George M. and Edith H. Codding	31,667.86	19,484.87	15,900.00	35,252.73
Frederick G. Crane	1,117.73	1,177.05	1,100.00	1,194.78
Stephen Davis	1,892.78	884.41	1,000.30	1,776.89
E. W. Eldridge, Jr. Memorial	118.41	71.80	100.00	90.21
George L. Farley	2,575.04	230.57	-0-	2,805.61
Harry L. Folsom Hoo Hoo Club	465.95	499.18	465.95	499.18
Kathryn F. Furcolo	333.37	372.40	333.37	372.40
Gassett	111.01	67.42	100.00	78.43
Charles A. Gleason	203.32	172.18	200.00	175.50
Margaret Ruth Pomeroy Hamlin	-0-	3,987.38	3,987.38	-0-
Clarence C. Hardy	55.31	5.59	-0-	60.90
Walter H. Harrison	-0-	545.88	545.88	-0-
Philip B. Hasbrouck	586.52	405.83	500.00	492.35
Mrs. Clifton Johnson	194.94	157.32	-0-	352.26
Helen E. Knowlton	687.43	692.01	650.00	729.44
Howard M. Lebow Memorial	-0-	121.96	-0-	121.96
Albert P. Madeira	517.29	551.58	517.29	551.58
Porter L. Newton Educational	1,059.96	1,116.51	1,000.00	1,176.47
J. Clark Osterhout	59.22	18.29	-0-	77.51
Betsy C. Pinkerton	380.67	207.63	350.00	238.30
Charles S. Plumb	1,522.24	193.97	96.98	1,619.23
Frank H. Plumb	916.20	619.42	900.00	635.62
V. A. Rice	118.07	123.80	100.00	141.87
Mary Robinson	134.03	138.30	100.00	172.33
Ilene Sharon Saval	-0-	59.84	-0-	59.84
Philip Sheinfield	-0-	144.91	-0-	144.91
Dr. Henry Franklin Staples Memorial	-0-	2,374.18	2,374.18	-0-
The Stockbridge School Alumni	333.01	81.21	17.25	396.97
Ruth J. Totman Memorial	91.95	43.70	-0-	135.65
Frank M. West Forestry	876.50	845.53	850.00	872.03
Whiting Street	90.29	93.31	-0-	183.60
Helen A. Whittier	144.04	153.97	150.00	148.01
Sub-Total	$56,878.10	$ 44,141.89	$ 39,737.93	$61,282.06

Schedule A-4 (continued)

Endowment Income

Statement of Receipts, Disbursements and Balances

	July 1, 1968	Receipts from Investments	Disbursements	Balance June 30, 1969
Prizes:				
Grinnell	$ 123.38	$ 5.68	$ -0-	$ 129.06
Elizabeth L. McNamara	-0-	68.84	68.84	-0-
Allan Leon Pond	85.72	34.31	14.60	105.43
Betty Steinbugler	103.92	9.19	-0-	113.11
Sub-Total	$ 313.02	$ 118.02	$ 83.44	$ 347.60
Books:				
Oscar G. Anderson Memorial	$ 536.11	$ 46.75	$ -0-	$ 582.86
John C. Cutter	370.49	50.70	-0-	421.19
Library	2,004.51	508.76	-0-	2,513.27
Robert F. Pomeroy Library	540.21	70.81	145.93	465.09
Sub-Total	$ 3,451.32	$ 677.02	$ 145.93	$ 3,982.41
Miscellaneous Purposes:				
George H. Barber	$ 825.76	$ 234.06	$ -0-	$ 1,059.82
Oswald Behrend Award	-0-	41.95	41.95	-0-
The Guy Chester Crampton Research	1,565.43	117.13	304.00	1,378.56
Distinguished Visitors Committee	4,582.17	1,951.77	-0-	6,533.94
J. D. W. French	3,477.56	495.64	564.24	3,408.96
Hills	1,957.35	916.25	1,086.13	1,787.47
Murray D. and Anne M. Lincoln	-0-	-0-	-0-	-0-
Murray D. Lincoln Land	310.00	1.00	22.44	288.56
Charles A. Peters	580.36	53.76	-0-	634.12
William Proctor	1,417.14	92.34	-0-	1,509.48
John W. Ryan Faculty Convocation Award	-0-	18.60	-0-	18.60
Ray E. Torrey Memorial	-0-	35.63	35.63	-0-
Sub-Total	$14,715.77	$ 3,958.13	$ 2,054.39	$16,619.51
General Purposes (Unrestricted):				
Joseph W. Bartlett	$ -0-	$ -0-	$ -0-	$ -0-
Burnham Emergency	775.79	357.08	-0-	1,132.87
Frederick H. Read	164.51	78.44	-0-	242.95
William R. Sessions	471.51	220.52	-0-	692.03
William Wheeler	1,082.50	500.80	-0-	1,583.30
Sub-Total	$ 2,494.31	$ 1,156.84	-0-	$ 3,651.15
Undistributed Income	$ 7,651.98	$ 56,742.21	$ 55,198.88	$ 9,195.31
Endowment from State	5,544.89	3,366.72	5,907.17	3,004.44
Funds Functioning as an Endowment				
Anonymous Scholarship #2	-0-	77.84	-0-	77.84
Total	$91,049.39	$110,238.67	$103,127.74	$98,160.32

Schedule A-5

Statement of Endowment Fund Principal

Name of Fund	Balance July 1, 1968	Additions	Disbursements	Balance June 30, 1969
Endowments				
Alpha Sigma Phi	$ 7,100.00	$ -0-	$ -0-	$ 7,100.00
Alvord Dairy	4,197.15	-0-	-0-	4,197.15
Oscar G. Anderson Memorial	1,015.00	-0-	-0-	1,015.00
Ascension Farm School	119,975.79	-0-	-0-	119,975.79
Danforth Keyes Bangs	5,861.58	-0-	-0-	5,861.58
George H. Barber	5,073.86	-0-	-0-	5,073.86
Seymour Barowsky	5,000.00	-0-	-0-	5,000.00
Joseph W. Bartlett	-0-	-0-	-0-	-0-
Oswald Behrend Award	908.64	41.95	-0-	950.59
Burnham Emergency	7,742.23	-0-	-0-	7,742.23
John Thomas and Nancy Butterworth	10,000.00	-0-	-0-	10,000.00
Buttrick	10,000.00	-0-	-0-	10,000.00
Lucius Clapp	8,740.42	-0-	-0-	8,740.42
Addison H. Clark Memorial	-0-	-0-	-0-	-0-
The Class of 1882	1,726.95	39.83	-0-	1,766.78
George M. and Edith H. Codding	367,264.70	-0-	-0-	367,264.70
The Guy Chester Crampton Research	2,539.03	-0-	-0-	2,539.03
Frederick G. Crane	25,518.08	-0-	-0-	25,518.08
John C. Cutter	1,098.41	-0-	-0-	1,098.41
Stephen Davis	19,175.00	-0-	-0-	19,175.00
Distinguished Visitors Committee	42,311.89	9,754.74	-0-	52,066.63
*Endowment from State	-0-	-0-	-0-	-0-
E. W. Eldridge, Jr. Memorial	1,555.00	-0-	-0-	1,555.00
George L. Farley	5,000.00	-0-	-0-	5,000.00
Harry L. Folsom Hoo Hoo Club	10,807.87	15.95	-0-	10,823.82
J. D. W. French	10,743.41	-0-	-0-	10,743.41
Kathryn F. Furcolo	8,076.36	333.37	-0-	8,409.73
Gassett	1,462.20	-0-	-0-	1,462.20
Charles A. Gleason	3,731.73	-0-	-0-	3,731.73
Grinnell	125.94	-0-	-0-	125.94
Margaret Ruth Pomeroy Hamlin	34,168.06	1,137.36	1,768.06	33,537.36
Clarence C. Hardy	119.65	-0-	-0-	119.65
Walter H. Harrison	11,836.14	-0-	-0-	11,836.14
Philip B. Hasbrouck	2,139.00	-0-	-0-	2,139.00
Hills	15,523.89	-0-	-0-	15,523.89
Mrs. Clifton Johnson	3,411.47	-0-	-0-	3,411.47
Helen E. Knowlton	15,000.00	-0-	-0-	15,000.00
Howard M. Lebow Memorial	-0-	5,200.87	-0-	5,200.87
Library	11,027.85	-0-	-0-	11,027.85
Murray D. and Anne M. Lincoln	-0-	11,200.00	-0-	11,200.00
Murray D. Lincoln Land	152,905.40	-0-	-0-	152,905.40
Albert P. Madeira	11,956.47	17.29	-0-	11,973.76
Elizabeth L. McNamara	1,000.00	-0-	-0-	1,000.00
Porter L. Newton Educational	24,204.46	-0-	-0-	24,204.46
J. Clark Osterhout	396.95	-0-	-0-	396.95
Charles A. Peters	1,162.77	-0-	-0-	1,162.77
Betsy C. Pinkerton	4,500.00	-0-	-0-	4,500.00
Charles S. Plumb	4,203.67	96.98	-0-	4,300.65
Frank H. Plumb	13,427.17	-0-	-0-	13,427.17
Robert F. Pomeroy Library	1,535.95	-0-	-0-	1,535.95
Allan Leon Pond	744.78	-0-	-0-	744.78
William Proctor	2,000.00	-0-	-0-	2,000.00
Frederick H. Read	1,699.55	-0-	-0-	1,699.55
V. A. Rice	2,684.11	-0-	-0-	2,684.11
Mary Robinson	3,000.00	-0-	-0-	3,000.00
John W. Ryan Faculty Convocation Award	-0-	862.91	-0-	862.91
Ilene Sharon Saval	-0-	1,741.00	-0-	1,741.00
William R. Sessions	4,780.97	-0-	-0-	4,780.97
Philip Sheinfield	-0-	5,800.00	-0-	5,800.00
Dr. Henry Franklin Staples Memorial	51,469.82	-0-	-0-	51,469.82
Betty Steinbugler	200.00	-0-	-0-	200.00
The Stockbridge School Alumni	1,761.38	200.00	-0-	1,961.38
Ray E. Torrey Memorial	772.57	35.63	-0-	808.20
Ruth J. Totman Memorial	949.17	-0-	-0-	949.17
Frank M. West Forestry	18,328.55	-0-	-0-	18,328.55
William Wheeler	10,855.91	-0-	-0-	10,855.91
Whiting Street	2,021.70	-0-	-0-	2,021.70
Helen A. Whittier	3,338.22	-0-	-0-	3,338.22
Funds Functioning as an Endowment				
Anonymous Scholarship #2	-0-	3,068.75	33.66	3,035.09
Totals	$1,099,876.87	$39,546.63	$1,801.72	$1,137,621.78

* Principal of $142,000.00 held by State Treasurer.

Schedule A-6

Statement of Student Loan Funds

	July 1, 1968	Total Net Additions & Interest	Loan Transactions Paid	Made	Cancelled	Balance, June 30, 1969 Notes	Cash	Total
Danforth Keyes Bangs	$ 7,436.95	$ (222.90)	$ 7,043.03	$ 3,340.00	$ -0-	$ 3,533.92	$ 3,680.13	$ 7,214.05
Addison H. Clark Memorial	19,969.36	-0-	-0-	-0-	-0-	-0-	19,969.36	19,969.36
Class of 1905	3,559.23	-0-	1.21	2.10	-0-	354.89	3,204.34	3,559.23
Vincent Goldthwait	17,485.92	101.34	25,171.40	21,549.00	-0-	7,301.60	10,285.66	17,587.26
Graduate and Foreigh Students	5,000.00	-0-	6,368.63	7,194.30	-0-	1,470.00	3,530.00	5,000.00
Walter H. Harrison	6,776.87	545.88	-0-	-0-	-0-	-0-	7,322.75	7,322.75
Murray D. Lincoln	363.38	-0-	-0-	-0-	-0-	-0-	363.38	363.38
Massachusetts Agriculture	622.52	-0-	-0-	-0-	-0-	-0-	622.52	622.52
Massachusetts Assembly	34,968.11	(11,057.17)	11,057.17	900.00	-0-	23,719.87	191.07	23,910.94
Elizabeth L. McNamara	416.74	23.64	-0-	-0-	-0-	-0-	440.38	440.38
Michael Mathius Fund	-0-	200.00	-0-	200.00	-0-	200.00	-0-	200.00
New England Feedmen's Assoc. Loan Fund	757.39	-0-	-0-	-0-	-0-	-0-	757.39	757.39
Sievers Memorial	2,086.34	130.00	244.43	700.00	-0-	1,155.57	1,060.77	2,216.34
Henry F. Staples Memorial	20,050.86	2,407.77	5,807.00	14,251.00	-0-	8,444.00	14,014.63	22,458.63
Sub-Total	$ 119,493.67	$ (7,871.44)	$ 55,692.87	$ 48,136.40	$ -0-	$ 46,179.85	$65,442.38	$ 111,622.23
New England Society of New York	996.00	-0-	589.00	409.00	-0-	-0-	996.00	996.00
Total - Amherst	$ 120,489.67	$ (7,871.44)	$ 56,281.87	$ 48,545.40	$ -0-	$ 46,179.85	$66,438.38	$ 112,618.23
Emergency Loan Fund for Boston	5,800.00	500.00	-0-	500.00	-0-	6,300.00	-0-	6,300.00
Total - Boston	$ 5,800.00	$ 500.00	$ -0-	$ 500.00	$ -0-	$ 6,300.00	$ -0-	$ 6,300.00
Total - Trust Funds	$ 126,289.67	$ (7,371.44)	$ 56,281.87	$ 49,045.40	$ -0-	$ 52,479.85	$66,438.38	$ 118,918.23
National Defense Student Loans	2,435,036.32	337,911.15	95,255.90	404,914.77	63,375.06	2,679,983.01	29,589.40	2,709,572.41
Student Nursing Loans	51,606.66	12,779.99	-0-	17,913.40	-0-	63,377.40	1,009.25	64,386.65
Total - Federal Funds	$2,486,642.98	$350,691.14	$ 95,255.90	$422,828.17	$63,375.06	$2,743,360.41	$30,598.65	$2,773,959.06
Grand Total - Student Loans	$2,612,932.65	$343,319.70	$151,537.77	$471,873.57	$63,375.06	$2,795,840.26	$97,037.03	$2,892,877.29

A total of 2,165 students received $471,873.57 in loans for this year. $49,045.40 was loaned to 334 students during the year from University funds. Twenty-nine students received loans totalling $409.00 from the New England Society of New York; this is a small emergency loan fund handled by the Dean of Men. $404,914.77 was loaned to 1763 students from the National Defense Student Loan Fund. Thirty-nine students received $17,913.40 from the Nursing Loan Fund.

Schedule B-1

State Appropriations

Comparative Statement by Subsidiary Accounts

General Maintenance

Code No.	Amherst 1350-01	1967	1968	1969
01	Salaries, Permanent Positions	$14,419,469.00	$17,119,140.00	$18,932,000.00
02	Salaries, Other	4,335,737.00	5,217,695.00	5,911,000.00
03	Services, Non-Employees	3,026,000.00	3,455,000.00	3,709,000.00
04	Food for Persons	2,500.00	980.00	1,020.00
05	Clothing	10,000.00	12,000.00	6,000.00
06	Housekeeping Supplies and Expenses	76,500.00	82,000.00	95,000.00
07	Laboratory, Medical and General Care	8,000.00	10,000.00	10,000.00
08	Heat and Other Plant Operations	1,062,000.00	890,000.00	1,200,000.00
09	Farm and Grounds	109,000.00	86,920.00	120,000.00
10	Travel and Automotive Expenses	159,000.00	169,000.00	188,000.00
11	Advertising and Printing	121,000.00	111,000.00	140,000.00
12	Repairs, Alterations and Additions	500,000.00	605,000.00	600,000.00
13	Special Supplies and Expenses	550,000.00	665,000.00	687,000.00
14	Office and Administrative Expenses	365,000.00	409,000.00	513,480.00
15	Equipment	408,200.00	375,000.00	472,000.00
16	Rentals	913,800.00	955,600.00	950,000.00
	Totals	$26,066,206.00	$30,163,335.00	$33,534,500.00(a)(c)

General Maintenance

Boston 1350-02

01	Salaries, Permanent Positions	$ 1,334,156.00	$ 1,949,000.00	$ 2,554,000.00
02	Salaries, Other	207,065.00	500,000.00	518,000.00
03	Services, Non-Employees	300,000.00	535,000.00	755,000.00
06	Housekeeping Supplies and Expenses	-0-	1,500.00	1,500.00
07	Laboratory, Medical and General Care	2,500.00	2,500.00	3,000.00
08	Heat and Other Plant Operations	55,000.00	70,000.00	80,000.00
10	Travel and Automotive Expenses	15,000.00	15,000.00	20,000.00
11	Advertising and Printing	6,000.00	14,500.00	20,000.00
12	Repairs, Alterations and Additions	17,000.00	37,000.00	25,000.00
13	Special Supplies and Expenses	142,000.00	268,000.00	213,000.00
14	Office and Administrative Expenses	30,000.00	65,000.00	80,000.00
15	Equipment	65,000.00	165,000.00	172,500.00
16	Rentals	165,000.00	596,500.00	922,000.00
	Totals	$ 2,338,721.00	$ 4,219,000.00	$ 5,364,000.00(a)(b)

General Maintenance

Medical School 1350-38

01	Salaries, Permanent	$ 70,000.00	$ 251,123.84	$ 292,081.60
02	Salaries, Other	168.12	168.12	15,168.12
03	Services, Non-Employees	40,000.78	54,443.05	77,783.83
06	Housekeeping Supplies and Expenses	-0-	-0-	700.00
08	Heat and Other Plant Operations	-0-	-0-	9,000.00
09	Farm and Grounds	-0-	-0-	500.00
10	Travel and Automotive Expense	10,000.00	11,448.02	18,711.68
11	Advertising and Printing	5,000.00	5,888.00	10,940.55
12	Repairs, Alterations and Additions	200.00	684.65	8,274.44
13	Special Supplies and Expenses	1,000.00	10,049.94	18,247.55
14	Office and Administrative Expense	7,000.00	6,187.37	13,543.39
15	Equipment	10,000.00	8,398.70	15,066.56
16	Rentals	-0-	-0-	1,000.00
00	Special	191,076.69	113,301.50	57,284.65
	Totals	$ 334,445.59	$ 461,693.19	$ 538,302.37(a)

Schedule B-1 (Continued)

State Appropriations

Comparative Statement by Subsidiary Accounts

Other Maintenance		1967	1968	1969
1350-10-13	For Certain Scholarships	$ -0-	$ 600,000.00	$ 700,000.00 (a)
1350-35-14	Entertainment of Distinguished Visitors	1,000.00	1,000.00	1,000.00 (a)
1350-36-16	Rental Fee President's House	1,200.00	1,200.00	1,200.00 (a)
1350-40-03	Disadvantaged Students	-0-	-0-	50,000.00 (b)
1350-40-13	Disadvantaged Students (Special Supplies and Expenses)	-0-	-0-	100,000.00 (b)
1350-41-13	Program of Assistance to Higher Education	100,000.00	-0-	-0-
1350-41-15	Program of Assistance to Higher Education	-0-	100,000.00	100,000.00 (a)
1350-50-13	Library Books, Amherst	200,000.00	200,000.00	200,000.00 (a)
1350-51-13	Library Books, Boston	50,000.00	100,000.00	100,000.00 (a)
1350-70-03	Senior Internship	35,000.00	35,000.00	35,000.00 (a)
1350-71-03	Legislative Internship Program	9,000.00	9,000.00	9,000.00 (a)
1350-72-13	Legislative Undergraduate Internship	5,000.00	-0-	-0-
1350-80-03	Technical Service	-0-	25,000.00	175,000.00 (a)
1350-96-13	For Certain Scholarships	396,400.00	-0-	-0-
1350-21-00	Research with Federal Grants	115,940.91	174,184.11	235,791.72
3304-44-00	Inland Fish and Game	9,400.00	8,050.00	8,500.00
3304-55-00	Fisheries and Cooperative Research	10,000.00	10,000.00	10,000.00
	Totals	$ 932,940.91	$ 1,263,434.11	$ 1,725,491.72
Capital Outlay (Schedule B-2)		$50,108,725.00	$ 1,982,000.00	$ 3,187,895.21
Grand Total Appropriations		$79,781,038.50	$38,089,462.30	$44,350,189.30

(a) Authorized by Chapter 380 of the Acts of 1968

(b) Authorized by Chapter 771 of the Acts of 1968

(c) Authorized by Chapter 360 of the Acts of 1969

Schedule B-2

Capital Outlay Current Year Appropriation

8069-66	Acquisition of Land	$ 100,000.00	(a)
8069-67	Library Books for Amherst	500,000.00	(a)
8069-68	Construction of Avian Biology Building	105,000.00	(a)
8069-70	Renovations and Improvements of Boston Branch	1,510,000.00	(a)
8069-71	Library Books for Boston Branch	250,000.00	(a)
8069-73	Library Books for Medical School	230,000.00	(a)
8364-26	Renovation of Older Classroom Buildings	74,895.21	(b)
8465-12	Renovation of Older Classroom Buildings	218,000.00	(b)
8066-26	Improvements and Additions to Power Plant	200,000.00	(b)
		$3,187,895.21	

(a) Authorized by Chapter 476 of the Acts of 1968

(b) Transferal from the Bureau of Building Construction

Schedule B-3

Capital Outlay Appropriations*

8069-63	For the preparation of plans for additional facilities to include a theatre and auditorium in the classroom and laboratory building for the college of arts and sciences; to be in addition to the amount appropriated in item 8064-31 of section two of chapter six hundred and forty-eight of the acts of nineteen hundred and sixty-three, total project cost not to exceed thirteen million eight hundred thousand dollars.	$ 150,000.00
8069-64	For certain improvements and additions to the steam plant and utility distribution systems.	3,750,000.00
8069-65	For the construction of a classroom, laboratory and office building for the college of arts and sciences, including the cost of furnishings, equipment, site development and the replacement of tennis courts.	5,840,000.00
8069-69	For the construction of a dairy-animal research laboratory at South Deerfield, including demolition and the cost of furnishings, equipment and site development.	529,000.00
8169-06	For the construction of a horticultural research center building in Belchertown, including the cost of furnishings and equipment.	340,000.00
8069-97	For the preparation of plans for an addition to the health services building, including certain renovations to the existing building; total project cost not to exceed one million three hundred and sixty-eight thousand dollars.	100,000.00
8069-72	For the preparation of plans for certain renovations and improvements to the H. E. Shaw building for the medical school in the city of Worcester, total project cost not to exceed one million dollars.	100,000.00
		$10,809,000.00

*The above Capital Outlay Appropriations are under supervision and control of the state.

Schedule B-4

Comparative Statement of Funds Forwarded to State Treasurer

on account of Income from Fees, Sales and Services

	1967		1968		1969	
Instruction						
Tuition - Amherst	$3,065,608.13		$3,416,337.99		$3,163,575.59	
Tuition - Summer School - Amherst	250,560.00		342,467.70		264,913.80	
Tuition - Boston	-0-		-0-		617,967.50	
Tuition - Summer School - Boston	-0-		-0-		53,276.00	
Sales - Productive Enterprise	61,463.37		62,283.07		65,381.56	
Other Student Receipts	21,782.75		31,117.20		19,881.56	
Other Sales	37,794.45		44,427.95		50,628.86	
Reimbursement for Services - Federal Government	39.00		-0-		2,979.00	
		$3,437,247.70		$3,896,633.91		$4,238,603.87
Extension Services						
Miscellaneous		68.54		90.65		120.91
Experiment Station						
Sales	8,798.29		6,517.70		3,699.18	
Waltham Field Station	8.00		18.00		17.00	
		8,806.29		6,535.70		3,716.18
Control Services						
Fertilizer Law	23,225.59		20,611.47		19,939.62	
Poultry Disease Law	23,162.85		19,494.90		17,608.95	
Dairy Glassware	413.55		544.80		556.35	
Commercial Feedstuffs	28,680.00		28,100.00		27,380.00	
Seed Law	1,239.00		1,114.50		986.25	
Dairy Cattle Certification	1,582.05		-0-		15.50	
Drivers of Bulk Milk Trucks	154.00		112.00		92.00	
M. G. Control Testing	-0-		18,841.15		20,972.70	
		78,457.04		88,818.82		87,551.37
Operation of Plant						
Students Room Rent	1,000,869.33		456,522.75		443,801.77	
Transient Rent	13,620.25		-0-		-0-	
Employee's Rent	97,838.56		95,242.80		78,962.73	
Other Rents	123,796.07		133,425.57		10,793.74	
Miscellaneous	84,389.67		33,385.46		101,774.72	
Reimbursements for Services - Boarding Halls	56,554.43		433,445.57		245,000.00	
		1,377,068.31		1,152,022.15		880,332.96
Miscellaneous						
Other	46,656.02		32,747.36		54,291.06	
Reimbursement for Services - Other than Federal Government - Research Project	23,704.36		81,241.05		-0-	
		70,360.38		113,988.41		54,291.06
		$4,972,008.26		$5,258,089.64		$5,264,616.35

Schedule B-5

Capital Outlay Appropriations

Account Number and Name		Expires	Total Appropriation	Expenditures Prior Year	Expenditures Current Year	Reverted to State Treasurer	Balance of Appropriations June 30, 1969
8262-12	Land Purchase	1968	$ 371,000.00	$ 366,500.00	$ -0-	-0-	$ 4,500.00
8064-30	Land Purchase	1968	300,000.00	294,519.88	3,666.40	-0-	1,813.72
8065-28	Sidewalks, Parking, etc.	1969	1,000,000.00	895,184.76	101,288.47	-0-	3,526.77
8065-35	T.V., Computer, etc.	1969	1,000,000.00	914,212.16	75,692.17	-0-	10,095.67
8066-26	Improv. & Add. Power Plant	1971	300,000.00	5,364.97	71,185.50	-0-	223,449.53
8066-44	Const. of Teaching Fac.	1971	863,725.00	863,129.83	450.50	-0-	144.67
8066-70	Const. of Roads & Sidewalks	1970	500,000.00	468,314.93	31,685.07	-0-	-0-
8066-98	Medical School Loan	1970	600,000.00	511,204.75	-0-	-0-	88,795.25
8067-26	Replacement of Furniture	1971	250,000.00	245,284.05	4,262.95	-0-	453.00
8067-27	Repair & Renov. to Older Buildings	1971	500,000.00	197,366.65	184,748.84	-0-	117,884.51
8067-28	Add. to Cranberry Station	1971	165,000.00	82,321.20	74,398.30	-0-	8,280.50
8067-31	Medical Sch. Library Books	1971	230,000.00	225,684.72	4,113.57	-0-	201.71
8068-28	Renov. & Improv.-Boston	1972	750,000.00	7,766.89	644,548.14	-0-	97,684.97
8068-31	Const. of Roads & Sidewalks	1972	1,000,000.00	33,725.45	748,409.50	-0-	217,865.05
8068-61	Medical Sch. Library Books	1972	200,000.00	25,318.30	37,518.57	-0-	137,163.13
8069-66	Land Purchase	1973	100,000.00	-0-	42,125.00	-0-	57,875.00
8069-67	Library Books - Amherst	1973	500,000.00	-0-	474,013.67	-0-	25,986.33
8069-68	Avian Biology Building	1973	105,000.00	-0-	38,148.95	-0-	66,851.05
8069-70	Renov. & Improv.-Boston	1973	1,510,000.00	-0-	891,687.17	-0-	618,312.83
8069-71	Library Books - Boston	1973	250,000.00	-0-	231,441.46	-0-	18,558.54
8069-73	Library Books - Med. Sch.	1973	230,000.00	-0-	-0-	-0-	230,000.00
8301-00	Boston Loan	1971	2,700,000.00	2,672,974.71	22,899.17	-0-	4,126.12
8364-26	Renov. of Older Buildings	1970	74,895.21	-0-	18.40	-0-	74,876.81
8465-12	Renov. of Older Buildings	1970	218,000.00	-0-	43,069.39	-0-	174,930.61
			$14,017,620.21	$8,106,283.78	$3,725,371.19	-0-	$ 2,185,965.24

Schedule B-6

Other State Appropriations

Name and Account Number	Grant	Encumbrance	Expended	Balance June 30, 1969
Federal Grant Held by State Treasurer				
Grant #4550-09 New Facilities for Research and Graduate Training - Morrill Science Center - Movable Property	$54.82	$36.98	-0-	$17.84
State Technical Service Grant				
Grant #4550-00 State Technical Services Act of 1965	28.20	-0-	-0-	28.20
Total	$83.02	$36.98	-0-	$46.04

Schedule B-7

Federal Funds

Statement of Receipts, Disbursements and Balances

	Balance July 1, 1968	Receipts	Disbursements	Balance June 30, 1969
Instruction				
Bankhead Jones	$ 52,163.77	$ 269,118.74	$ 287,616.95	$ 33,665.56
Land Grant	26,003.57	7,300.00	3.20	33,300.37
Morrill - Nelson	2,824.10	33,333.33	98.00	36,059.43
Smith - Hughes	(1,466.54)	12,312.40	18,931.01	(8,085.15)
Water Resources Center	16,285.23	108,318.19	117,326.28	7,277.14
Totals	$ 95,810.13	$ 430,382.66	$ 423,975.44	$102,217.35
Extension Service				
Smith Lever Act as Amended 1953	$ 45,335.76	$ 672,038.68	$ 632,923.78	$ 84,450.66
Research and Marketing	-0-	53,405.20	53,405.20	-0-
Agricultural Marketing #12-05-300-122	-0-	5,000.00	-0-	5,000.00
Nutrition Education Program	-0-	144,269.32	135,901.90	8,367.42
Rural Civil Defense #12-05-300-87	8,353.82	-0-	8,353.82	-0-
Totals	$ 53,689.58	$ 874,713.20	$ 830,584.70	$ 97,818.08
Experiment Station				
Hatch Amended	$ 53,200.98	$ 522,192.83	$ 519,355.87	$ 56,037.94
McIntire - Stennis	4,669.13	54,620.15	47,137.91	12,151.37
Regional Research	3,646.70	177,687.00	174,846.27	6,487.43
CSRS-716-15-14	(959.76)	5,980.55	2,606.00	2,414.79
CSRS-12-15-67-45	27,498.75	9,749.00	25,542.65	11,705.10
Totals	$ 88,055.80	$ 770,229.53	$ 769,488.70	$ 88,796.63
Grand Total	$237,555.51	$2,075,325.39	$2,024,048.84	$288,832.06

Schedule B-8

Student Aid Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Fellowships					
National Institutes of Health					
Institutional Allowance	$ 1,120.48	$ -0-	$ (1,120.48)	$ -0-	$ -0-
GM-28618-04	-0-	-0-	699.92	699.92	-0-
GM-32100-01	-0-	-0-	120.40	120.40	-0-
GM-32100-02	-0-	-0-	1,000.00	1,000.00	-0-
GM-32152-01-A1	-0-	-0-	684.27	684.27	-0-
GM-32152-02	-0-	-0-	1,791.90	1,791.90	-0-
GM-33148-02	-0-	-0-	466.65	466.65	-0-
GM-33170-02	-0-	-0-	433.26	433.26	-0-
GM-33170-03	-0-	-0-	2,951.42	2,951.42	-0-
AI-33410-01	-0-	-0-	849.97	849.97	-0-
GM-35906-02	-0-	-0-	2,315.12	2,315.12	-0-
GM-36120-01	-0-	-0-	682.74	682.74	-0-
GM-36120-02	-0-	-0-	3,390.12	3,390.12	-0-
GM-36162-01	-0-	-0-	737.63	737.63	-0-
GM-36162-02	-0-	-0-	264.62	264.62	-0-
CA-37083-01	-0-	-0-	211.64	211.64	-0-
GM-37083-02	-0-	-0-	739.98	739.98	-0-
MH-37507-01	-0-	-0-	433.26	433.26	-0-
MH-37507-02	-0-	-0-	2,305.80	2,305.80	-0-
GM-37986-01	-0-	-0-	433.26	433.26	-0-
GM-37986-02	-0-	-0-	2,150.00	2,150.00	-0-
GM-38156-01	-0-	-0-	1,099.98	1,099.98	-0-
GM-38156-02	-0-	-0-	5,622.68	5,622.68	-0-
GM-38567-02	-0-	-0-	1,609.90	1,609.90	-0-
MH-39681-01	-0-	-0-	1,976.10	1,976.10	-0-
AI-40034-01	-0-	-0-	475.50	475.50	-0-
GM-40062-01	-0-	-0-	4,793.67	4,793.67	-0-
EH-42125-01	-0-	-0-	2,799.73	2,799.73	-0-
GM-42610-01	-0-	-0-	200.00	200.00	-0-
EH-68-654-A	-0-	-0-	1,797.75	1,797.75	-0-
EH-69-654-B	-0-	-0-	13,193.92	13,193.92	-0-
EH-69-655-A	-0-	-0-	11,559.82	11,559.82	-0-
National Science Foundation					
Faculty Education Allowance	-0-	500.00	(500.00)	-0-	-0-
Fellowships	-0-	5,080.00	(2,530.04)	2,549.96	-0-
Foreign Science Fellowship	-0-	13,750.00	-0-	11,405.58	2,344.42
Institutional Allowance	26,010.89	-0-	1,250.18	-0-	27,261.07
National Defense Graduate					
Fellowship	-0-	-0-	336,711.35	336,711.35	-0-
Office of Education					
OE 71-00-2221	-0-	-0-	31,331.69	31,331.69	-0-
OE 71-31-0791	-0-	-0-	1,600.00	1,600.00	-0-
OEG 0-8-003093-3093 (031)A	-0-	15,900.00	(7,500.00)	5,451.41	2,948.59
OEG 1-6-00082-0082	8,900.00	-0-	-0-	8,900.00	-0-
OEG 2-7-003251-3251	.14	-0-	(.14)	-0-	-0-
Department of Interior					
WP26229-01	600.00	-0-	(.06)	599.94	-0-
WP26229-02	-0-	6,300.00	(2,500.00)	3,142.01	657.99
WP26346-01	-0-	5,176.00	(2,500.00)	2,101.78	574.22
Total - Federal Fellowships	$ 36,631.51	$ 46,706.00	$422,033.51	$471,584.73	$ 33,786.29

Schedule B-8 (Continued)

Student Aid Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Miscellaneous Fellowships					
A. M. C. Fellowship	$ -0-	$ 8,250.00	$ -0-	$ 6,636.00	$ 1,614.00
America the Beautiful	.01	2,000.00	10.08	2,010.09	-0-
American Cancer Society/ Petroleum Research	-0-	5,000.00	-0-	2,947.94	2,052.06
American Cancer Society/ Graduate Fellowship	-0-	5,000.00	-0-	123.08	4,876.92
Hazel Stillwell Best	-0-	4,500.00	-0-	1,285.60	3,214.40
Campbell Institute for Food	5,000.00	-0-	(4,000.00)	-0-	1,000.00
Department of Chemistry	.06	-0-	-0-	-0-	.06
Ford Foundation - Allen	3,401.60	-0-	-0-	2,660.96	740.64
General Telephone and Electronics	42.12	-0-	-0-	-0-	42.12
Glass Container Manufacturing	11,916.05	14,000.00	-0-	9,492.63	16,423.42
Microbiology Pre-doctoral	85.37	-0-	-0-	-0-	85.37
Misubishi	574.95	600.00	600.00	1,651.87	123.08
Owens Illinois Graduate	400.00	2,400.00	-0-	2,384.41	415.59
Paint Research Institute	691.44	7,500.00	-0-	3,846.68	4,344.76
Plastic Institute of America	-0-	5,000.00	-0-	2,976.89	2,023.11
Stauffer Chemical Company	4,157.99	4,000.00	-0-	4,119.59	4,038.40
Texaco Fellowship in Chemistry	3,681.63	3,100.00	-0-	142.50	6,639.13
Wise Potato Chip	643.59	-0-	-0-	407.88	235.71
Woodrow Wilson National	228.30	-0-	-0-	-0-	228.30
Xerox Graduate	-0-	5,300.00	-0-	4,277.52	1,022.48
Total - Miscellaneous Fellowships	$ 30,823.11	$ 66,650.00	$ (3,389.92)	$ 44,963.64	$ 49,119.55
Scholarships					
American Society of Mech. Engr.	$ 400.00	$ -0-	$ -0-	$ -0-	$ 400.00
Anheuser - Busch	1,000.00	-0-	-0-	1,000.00	-0-
Anonymous Scholarship #2	2,341.86	-0-	-0-	2,341.86	-0-
F. & M. Baker Scholarship	-0-	100.00	-0-	100.00	-0-
Band	299.45	160.00	-0-	150.00	309.45
George H. Barber	-0-	-0-	26,000.00	-0-	26,000.00
Borden Agriculture	900.00	-0-	-0-	300.00	600.00
Nathaniel I. Bowditch Speaking Contest	355.00	-0-	-0-	-0-	355.00
Carling Brewing	100.00	-0-	-0-	100.00	-0-
Chemical Club of New England, Inc.	-0-	500.00	-0-	500.00	-0-
Robert Sterling Clark	1,250.00	-0-	-0-	1,250.00	-0-
Class of 1920	-0-	200.00	-0-	200.00	-0-
Club Managers Assoc. of America	300.00	-0-	-0-	300.00	-0-
Combustion Engineering	-0-	555.00	-0-	-0-	555.00
Charles M. Cox	300.00	300.00	-0-	150.00	450.00
Lotta Crabtree	367.00	-0-	-0-	-0-	367.00
Rachel Deitz Scholarship Fund	-0-	300.00	-0-	-0-	300.00
Engineering Alumni	3,522.05	3,220.68	15.00	3,562.04	3,195.69
Fenway Motor Hotel	-0-	250.00	-0-	250.00	-0-
Florist & Garden Club of Western Massachusetts	100.00	100.00	-0-	100.00	100.00
French Government	254.00	-0-	-0-	-0-	254.00
Gardiner Manufacturing Company	493.10	-0-	-0-	493.10	-0-
Graduate School Scholarship & Loan	243.66	-0-	-0-	-0-	243.66
Hood	1,042.00	1,200.00	-0-	1,200.00	1,042.00
Industrial Engineering	135.44	-0-	-0-	-0-	135.44
Howard Johnson	250.00	1,500.00	-0-	1,750.00	-0-
Merwin Memorial	-0-	2,500.00	-0-	1,773.45	726.55
Miscellaneous	3,360.49	407.00	50.00	700.00	3,117.49
New York Farmers	-0-	1,000.00	-0-	1,000.00	-0-

Schedule B-8 (Continued)

Student Aid Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Scholarships (Continued)					
Peter Pan Bus Lines	$ 200.00	$ 200.00	$ -0-	$ 200.00	$ 200.00
Program ABLE - Polaroid Scholarship	-0-	8,500.00	-0-	-0-	8,500.00
Ralston Purina	-0-	250.00	-0-	250.00	-0-
Restaurant and Hotel	1,305.00	4,750.00	-0-	6,050.00	5.00
Joseph C. Rich	350.00	-0-	-0-	200.00	150.00
Rubber Chemistry	814.00	-0-	-0-	766.33	47.67
Ilene Sharon Saval	1,841.00	-0-	-0-	1,741.00	100.00
Sears, Roebuck Company	83.00	600.00	-0-	683.00	-0-
Alfred P. Sloan Scholarship	-0-	6,700.00	-0-	-0-	6,700.00
Springfield Panhellenic	-0-	200.00	-0-	-0-	200.00
Sterling Surrey	970.00	-0-	-0-	-0-	970.00
Stockbridge Senate	6,675.02	2,135.88	-0-	4,675.02	4,135.88
Stouffer Restaurant Corp.	750.00	-0-	-0-	500.00	250.00
Traffic Fines	28,496.00	8,602.00	-0-	7,718.30	29,379.70
University	13,563.99	-0-	-0-	-0-	13,563.99
University of Massachusetts Foundation					
Margaret Fitz-Barnes	-0-	100.00	-0-	100.00	-0-
Class of 1913	-0-	150.00	-0-	150.00	-0-
Class of 1919	-0-	100.00	-0-	100.00	-0-
Vincent Goldthwait	600.00	600.00	-0-	600.00	600.00
H. F. Jones	300.00	300.00	-0-	300.00	300.00
Charles M. Powell	-0-	350.00	-0-	350.00	-0-
Vincent O. Wilbur Scholarship	-0-	500.00	-0-	500.00	-0-
L. R. Wilson	19.25	-0-	-0-	-0-	19.25
Women's Rod and Gun Club	100.00	-0-	-0-	100.00	-0-
Worcester County Poultry Association	100.00	100.00	-0-	4.69	195.31
Total - Scholarships	$ 73,181.31	$ 46,430.56	$ 26,065.00	$ 42,208.79	$103,468.08
Total - Fellowships & Scholarships	$140,635.93	$159,786.56	$444,708.59	$558,757.16	$186,373.92

Schedule B-9

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Auxiliary Enterprises					
Athletic Reserve	$ 31,817.54	$ 1,489.94	$ -0-	$ -0-	$ 33,307.48
Athletic Reserve - Special	102,527.78	-0-	140,309.37	-0-	242,837.15
Athletic Trust	208,060.55	117,878.95	250,034.88	550,742.58	25,231.80
Boarding Hall Trust	85,548.25	(167,286.99)	4,520,504.01	4,306,363.33	132,401.94
Boston Food Service	-0-	5,705.56	(1,759.25)	-0-	3,946.31
Orchard Hill Residence College	1,976.00	-0-	1,970.00	2,900.60	1,045.40
Residence Hall Telephone Trust	9,067.03	183,143.73	12,716.23	138,161.02	66,765.97
Residence Hall Trust	123,907.19	1,252,396.56	7.50	1,232,678.18	143,633.07
S.W. Residence College Trust	1,312.42	803.55	5,148.00	6,541.86	722.11
Student Automatic Service	81,906.06	119,164.10	(81,906.06)	16,865.02	102,299.08
Student Health Serv./Amherst	90,371.59	714,874.43	107,100.18	844,982.56	67,363.64
Student Health Serv./Boston	13,318.72	73,814.60	(10.00)	66,817.60	20,305.72
Student Health Service Reserve-Educational	8,000.00	-0-	13,200.00	-0-	21,200.00
Student Health Service Reserve-Permanent	20,000.00	-0-	6,000.00	-0-	26,000.00
Student Union Building Amortization Account	240,838.50	423,438.90	74,932.32	120,000.00	619,209.72
Student Union - Food Service	26,515.63	684,731.46	(40,600.00)	640,887.52	29,759.57
Student Union - General	112,285.85	482,506.31	121,235.79	716,027.95	-0-
Student Union Petty Cash - Contra	18,098.80	(2,000.00)	2,601.20	-0-	18,700.00
Student Union - Reserve	79,617.32	5,936.07	-0-	8,391.74	77,161.65
Student Union - University Store	94,807.68	2,363,064.62	(78,240.75)	2,342,324.61	37,306.94
Summer Counseling	-0-	85,685.75	3,621.00	27,206.92	62,099.83
Total - Auxiliary Enterprises	$ 1,349,976.91	$ 6,345,347.54	$ 5,056,864.42	$11,020,891.49	$ 1,731,297.38
Clearing Accounts					
Associate Alumni Clearing Account	$ -0-	$ 6,758.00	$ (15.00)	$ 6,473.00	$ 270.00
Athletic Clearing	-0-	446,465.25	(366,465.25)	80,000.00	-0-
Boarding Halls Clearing	-0-	5,102,971.94	(4,518,643.46)	584,328.48	-0-
General Federal Grant	-0-	4,524,532.70	50,790.90	4,575,323.60	-0-
Mass. Assembly Loan Payment	-0-	11,057.17	-0-	9,754.74	1,302.43
NIH - Cash Receipts	43,298.55	2,810,000.00	(2,853,298.55)	-0-	-0-
NSF - Office of Education	-0-	75,000.00	(75,000.00)	-0-	-0-
NSF - Cash Receipts	-0-	1,480,441.93	(1,480,441.93)	-0-	-0-
Travel Advance Revolving - Contra	10,000.00	2,000.00	2,000.00	4,000.00	10,000.00
UMass/Boston Deposit	7,245.55	6,389.41	-0-	-0-	13,634.96
Unpaid Trust Fund Check	2,031.90	7.00	-0-	10.00	2,028.90
Total - Clearing Accounts	$ 62,576.00	$14,465,623.40	$(9,241,073.29)	$ 5,259,889.82	$ 27,236.29

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
General Purpose					
Admin. Allowance/ Federal Program Trust	$ 50,816.00	$ 9,338.00	$ (4,432.17)	$ 28,826.25	$ 26,895.58
Advancement of Astronomy	5,072.39	5,000.00	-0-	3,269.70	6,802.69
George W. Alderman Museum	382.76	-0-	-0-	-0-	382.76
American Cyanamid	100.00	-0-	-0-	-0-	100.00
American Medical Assoc. - Education and Research for Medical School Program	25.00	-0-	(25.00)	-0-	-0-
Anatomical Trust	-0-	1,912.82	-0-	277.17	1,635.65
Anonymous Trust #2	586.64	3,400.00	-0-	3,397.51	589.13
Nicolas Appert Chair of Food Science & Technology	9,809.10	10,000.00	-0-	9,999.60	9,809.50
Art Acquisition	293.45	-0-	-0-	-0-	293.45
Budd Company	1,314.55	-0-	-0-	375.00	939.55
Campus Center	-0-	7,000.00	-0-	-0-	7,000.00
Collegiate Educ. Disadvantage Students	-0-	34,000.00	17,500.00	46,987.32	4,512.68
Departmental Service Funds:					
Agricultural Engineering	315.40	-0-	1,000.00	1,300.55	14.85
Biochemistry	865.35	-0-	1,500.00	1,793.96	571.39
Botany	619.51	-0-	5,750.00	6,292.72	76.79
Chemical Engineering	7,806.31	12,322.77	3,250.00	12,879.25	10,499.83
Civil Engineering	392.24	-0-	1,000.00	992.55	399.69
College of Agriculture	-0-	216.53	250.00	421.94	44.59
College of Arts & Sciences	189.33	-0-	3,805.00	3,304.09	690.24
Dean of Students	-0-	-0-	225.26	222.95	2.31
Department of Chemistry	12,579.30	11,000.00	5,250.00	11,244.31	17,584.99
Dept. of Forestry & Wildlife Mgmt.	-0-	-0-	500.00	121.20	378.80
English	1,818.02	-0-	8,000.00	7,493.20	2,324.82
Food Science & Technology	29.02	-0-	2,000.00	799.63	1,229.39
Geology	1,131.63	-0-	2,900.00	3,661.60	370.03
German	1,237.94	-0-	2,300.00	2,042.23	1,495.71
Government	5,347.52	-0-	640.00	1,034.80	4,952.72
Graduate School	-0-	-0-	321.76	166.55	155.21
History	797.56	-0-	1,750.00	1,825.39	722.17
Industrial Engineering	476.42	-0-	500.00	349.39	627.03
Labor Center	8,808.95	5,826.81	(1,817.47)	6,881.06	5,937.23
Marine Sciences	495.32	-0-	-0-	44.53	450.79
Mathematics	5,132.47	-0-	3,250.00	3,634.05	4,748.42
Mech. & Aerospace Engr.	5,321.44	2,245.72	1,000.00	5,538.34	3,028.82
Mechanical Engineering	1,695.10	-0-	(1,695.10)	-0-	-0-
Medical School	6,507.80	70.00	25.00	556.70	6,046.10
Microbiology Trust Fund	1,445.81	-0-	3,500.00	2,693.21	2,252.60
Philosophy	2,617.32	-0-	9,500.00	6,876.13	5,241.19
Physics	4,739.92	8,250.00	8,000.00	12,636.98	8,352.94
Physiology	-0-	1,000.00	-0-	-0-	1,000.00
Placement Office	907.28	814.00	31.93	1,753.21	-0-
Plant & Soil Sciences	810.80	-0-	2,000.00	1,734.87	1,075.93
Polymer Science & Engr.	8.00	3,600.00	(2,100.00)	515.76	992.24
Psychology	1,873.23	4.72	7,500.00	8,988.04	389.91
Romance Language	3,201.43	-0-	1,475.00	1,880.41	2,796.02
School of Business Admin.	7,042.87	6,121.13	5,902.47	8,400.25	10,666.22
School of Education	1,422.20	6,435.22	22,208.24	23,957.06	6,108.60
School of Engineering	2,236.18	-0-	25,361.56	24,812.21	2,785.53
School of Home Economics	979.22	1,253.16	-0-	195.62	2,036.76
School of Nursing	410.00	-0-	336.76	317.22	429.54
School of Physical Education	-0-	-0-	274.07	260.70	13.37
Sociology & Anthropology	225.14	-0-	3,000.00	1,888.10	1,337.04
Speech	336.05	1,592.90	6,250.00	7,236.79	942.16
Staff Physicians	450.00	500.00	-0-	-0-	950.00
Vet. & Animal Science	2,025.15	10.00	2,500.00	1,462.95	3,072.20
Zoology	2,944.00	-0-	5,000.00	5,544.77	2,399.23

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
General Purpose: (Continued)					
Lawrence S. Dickenson	$ -0-	$ 100.00	$ -0-	$ -0-	$ 100.00
Equitation Fund	164.50	528.00	-0-	666.97	25.53
Equine Research	-0-	650.50	-0-	-0-	650.50
Floriculture	144.47	72.00	-0-	66.00	150.47
Flower Grower's	51.13	-0-	-0-	-0-	51.13
General Electric - Pittsfield	-0-	24,762.30	(3,558.25)	16,946.91	4,257.14
General Service	81,439.99	572,400.03	-0-	546,130.26	107,709.76
Gift of Stockbridge - Class of 1965	828.89	-0-	-0-	253.34	575.55
Goat Bulletin	50.00	-0-	-0-	-0-	50.00
Hokkaido - Massachusetts	51.32	-0-	-0-	-0-	51.32
Honors Program	-0-	-0-	1,000.00	998.83	1.17
Horticulture Research Center	18,449.52	11,640.08	-0-	9,196.53	20,893.07
IBM Research Association	-0-	-0-	(165.94)	(170.75)	4.81
Kellogg Foundation	6,502.25	30,500.00	(325.12)	21,397.88	15,279.25
Martin Luther King Fund	-0-	925.00	-0-	-0-	925.00
Daniel J. Klein Lectureship	76.37	450.00	-0-	450.00	76.37
Maint. of Academic Projects	-0-	-0-	21,297.11	21,297.11	-0-
Massachusetts Food Service Educational Council	1,371.51	-0-	-0-	-0-	1,371.51
Massachusetts Population Research Institute	-0-	5,000.00	(5,000.00)	-0-	-0-
Motor Vehicle Registration	9,786.53	12,191.00	-0-	4,702.71	17,274.82
Municipal Bldg. Officials Conf.	1,063.68	11.23	-0-	173.50	90.41
National Distillers	960.43	5.15	-0-	581.61	383.97
National Starch & Chemical Corp.	100.00	-0-	-0-	-0-	100.00
N.D.E.A. Teachers Service Cancellation	2,939.63	3,852.65	-0-	-0-	6,792.28
NSF Science Development Proposal Fund	586.00	-0-	-0-	-0-	586.00
Nursery School Laboratory	-0-	4,090.95	-0-	1,815.87	2,275.08
Nursing Administration	300.00	400.00	-0-	-0-	700.00
Ocean Spray Cranberry	2,415.00	475.00	-0-	-0-	2,890.00
Ocean Spray Income	173.00	201.50	-0-	-0-	374.50
Pre-Registration Fee - New Students - Boston	20,631.35	27,150.00	-0-	26,466.96	21,314.39
President's Trust	993.47	-0-	-0-	347.25	646.32
Restaurant & Hotel Mgmt.	6,693.56	250.00	-0-	2,152.57	4,790.99
School of Education - Special Trust	-0-	-0-	24,687.39	-0-	24,687.39
School of Engineering Equip.	303.75	-0-	-0-	-0-	303.75
Sperry & Hutchinson Lecture Fund	956.84	-0-	-0-	540.00	416.84
Stockbridge Class of 1966 Gift Funds	3,035.49	162.49	-0-	-0-	3,197.98
Strength Training Clinic	-0-	21,750.00	-0-	21,696.90	53.10
Summer Workshop in Educ.	8,588.96	52,117.36	(6,400.00)	42,562.65	11,743.67
Trust Fund Interest Acct.	56,538.42	208,888.28	(107,862.22)	98,313.47	59,251.01
Undergraduate Outstanding Teaching Award	3,018.58	3,000.00	(1,000.00)	3,000.00	2,018.58
Uniform Resale - A.F.	402.88	126.25	-0-	265.70	263.43
University Fund	22,064.08	4,350.00	(4,471.66)	13,064.35	8,878.07
Xerox Prize - Boston	48.00	-0-	-0-	-0-	48.00
Sub-Total	$ 414,370.82	$ 1,117,963.55	$ 73,688.62	$ 1,109,804.44	$ 496,218.55

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Operating Funds					
AID/afr-281(a)	$ 49,023.22	$ -0-	$ 46,007.65	$ 25,123.49	$ 69,907.38
AID/csd-399	13,438.36	11,502.07	140.00	11,347.85	13,732.58
AID/afr-437	9,874.45	-0-	18,514.10	1,496.71	26,891.84
Engineering Research	1,606.32	950.00	-0-	608.38	1,947.94
I.A.I.M.	3,816.52	-0-	8,266.50	3,431.60	8,651.42
I.E.P.	184.29	-0-	-0-	26.95	157.34
N00014-68-A00146-14	2,922.22	-0-	24,400.87	16,751.46	10,571.63
OCD-PS-64-151	6,611.62	-0-	-0-	-0-	6,611.62
OCD-PS-65-87	13,845.15	-0-	15,897.80	-0-	29,742.95
Polymer Research Institute	3,808.79	1,056.37	7,423.69	10,632.64	1,656.21
Research Trust Fund	126,542.19	1,090.14	(60,523.64)	36,244.47	30,864.22
Dr. Strong - Operating	14,532.94	-0-	(14,532.94)	-0-	-0-
Upward Bound:					
Amherst - 41110	1,591.43	-0-	-0-	-0-	1,591.43
Amherst - 41120	14,304.52	-0-	86.62	-0-	14,391.14
Amherst - 41150	-0-	-0-	1,981.73	-0-	1,981.73
Boston - 41130	4,140.47	-0-	-0-	200.00	3,940.47
Boston - 41140	1,470.64	-0-	896.12	-0-	2,366.76
Sub-Total	$ 267,713.13	$ 14,598.58	$ 48,558.50	$ 105,863.55	$ 225,006.66
Total - General Purpose Funds	$ 682,083.95	$ 1,132,562.13	$ 122,247.12	$ 1,215,667.99	$ 721,225.21
Gifts & Grants Pending Trustee Action:					
Howard M. Lebow	$ 2,968.00	$ 1,574.00	$ -0-	$ 4,542.00	$ -0-
Oreana Merriam Educational Fund	-0-	1,588.02	-0-	-0-	1,588.02
Metawampe Fund	-0-	1,400.00	-0-	-0-	1,400.00
Harold W. Prize	-0-	24.00	-0-	-0-	24.00
Lawrence D. Rhodes Temporary Trust Fund	35.00	10.00	-0-	-0-	45.00
John F. Thompson Memorial Fund	-0-	100.00	-0-	-0-	100.00
Barry Lee Wolk Memorial	-0-	30.00	-0-	-0-	30.00
Total - Gifts & Grants Pending Trustee Action	$ 3,003.00	$ 4,726.02	$ -0-	$ 4,542.00	$ 3,187.02
Library Funds					
Book Replacement	$ -0-	$ 362.00	$ -0-	$ -0-	$ 362.00
Ford Foundation - Library	2,420.44	-0-	-0-	1,958.29	462.15
Leonard Harwitz	1,500.00	-0-	-0-	-0-	1.500.00
Hotel & Restaurant Library	372.39	-0-	-0-	66.10	306.29
Landscape Architecture	1,000.00	986.15	-0-	152.00	1,834.15
Library Fund	2,000.10	19.00	-0-	75.28	1,943.82
Morrill Science Library	125.00	-0-	-0-	-0-	125.00
U of M Medical School Library	125.00	-0-	-0-	-0-	125.00
Bruce Warner Library	109.15	-0-	-0-	-0-	109.15
Joseph Yokel Memorial Library	-0-	-0-	-0-	-0-	-0-
Total - Library Funds	$ 7,652.08	$ 1,367.15	$ -0-	$ 2,251.67	$ 6,767.56

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Miscellaneous Service Funds					
Botany Xerox	$ 2,667.78	$ 5,608.80	$ -0-	$ 3,600.37	$ 4,676.21
Computer Trust	-0-	95,184.87	399,624.32	418,112.55	76,696.64
Engineering Hybrid Computer	446.64	-0-	3.71	450.35	-0-
Innovations Film	16,339.02	49,646.26	(4,968.24)	48,867.27	12,149.77
Institutional Grants:					
OE-72-31-0791	-0-	-0-	863.51	863.51	-0-
NSF GU 2844	-0-	-0-	104,760.42	104,760.42	-0-
Institutional Allowance Account General	43,341.52	-0-	359,705.29	325,949.03	77,097.78
Mathematics Xerox	1,438.92	1,973.95	-0-	237.32	3,175.55
Research Council Service - Chemical Analysis	-0-	6,096.00	250.00	3,560.67	2,785.33
Research Council Service - Glass Shop	690.04	2,319.95	-0-	2,344.36	665.63
University Copy Center	18,050.34	75,948.13	-0-	91,904.39	2,094.08
University Press	66,604.59	74,131.13	102,500.00	170,192.62	73,043.10
	$ 149,578.85	$ 310,909.09	$ 962,739.01	$ 1,170,842.86	$ 252,384.09
Student Programs					
Academic Theatre	$ 6,845.37	$ 16,705.02	$ (3,000.00)	$ 18,113.46	$ 2,436.93
Air Force Commutation Uniform	842.85	4,860.98	-0-	4,652.63	1,051.20
Army Commutation Uniform	2,718.11	7,911.74	(14.74)	9,116.88	1,498.23
Archeology Field Scholarship	60.00	5,390.00	-0-	2,875.40	2,574.60
Bologna 1966	2,167.55	-0-	-0-	-0-	2,167.55
Bologna 1967	1,738.61	-0-	-0-	841.46	897.15
Bologna 1968	13,702.39	400.00	-0-	9,667.00	4,435.39
Bologna 1969	-0-	32,352.50	-0-	22,311.20	10,041.30
Commencement Fund	21,386.01	66,509.21	(26,780.00)	39,700.48	21,414.74
Commencement Trust - Boston	-0-	4,510.00	1,360.00	1,071.00	4,799.00
Cuban Refugee	-0-	9,000.00	-0-	9,000.00	-0-
Danforth Foundation - Residential	1,549.40	-0-	-0-	1,179.90	369.50
Fine Arts Club	21,208.51	80,458.42	(1,200.00)	81,435.25	19,031.68
Foreign Program	1,153.95	-0-	710.73	600.00	1,264.68
Foreign Student Advisor	187.43	-0-	-0-	-0-	187.43
Freiburg 1966	1,447.00	-0-	(774.00)	673.00	-0-
Freiburg 1967	937.30	230.00	(2,352.34)	(1,185.04)	-0-
Freiburg 1968	-0-	560.00	1,104.04	1,015.04	649.00
Freiburg 1969	-0-	8,033.60	20,950.00	28,431.76	551.84
Freiburg 1970	-0-	1,920.00	-0-	50.00	1,870.00
Graduate Student General Fee	-0-	115,736.00	(104,723.80)	-0-	11,012.20
Graduate Student Senate	-0-	100,144.31	(97,623.45)	1,100.42	1,420.44
Identification Card	3,610.53	16,206.70	2,357.75	11,972.52	10,202.46
Japanese 1966	1,830.55	-0-	(1,830.55)	-0-	-0-
Japanese 1967	45.84	-0-	-0-	-0-	45.84
Japanese 1969	-0-	-0-	31.50	31.50	-0-
Law Enforcement Educational Program Trust	-0-	8,000.00	-0-	850.00	7,150.00
Madrid 1967	162.00	-0-	(159.22)	2.78	-0-
Madrid 1968	5,052.84	1,799.82	-0-	6,833.48	19.18
Madrid 1969	-0-	22,384.00	2,500.00	17,410.65	7,473.35
Massachusetts Legislative Internship	5,099.38	22,500.00	-0-	24,854.74	2,744.64
Nantucket Fund	534.91	5,845.00	(26.51)	5,228.79	1,124.61

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Student Programs (Continued)					
OE 38-31-0790 College Work Study Program	$ 25,956.85	$ 103,658.05	$ 479,432.17	$ 589,506.20	$ 19,540.87
Operetta Guild Most Valuable Member Award	-0-	25.00	-0-	-0-	25.00
Oxford 1968	15,878.10	2,378.00	(2,000.00)	13,223.33	3,032.77
Oxford 1969	-0-	102,456.00	2,000.00	95,922.75	8,533.25
Pau Summer Program Trust	-0-	2,200.00	-0-	2,200.00	-0-
Plant Pathology Graduate Fund	50.00	-0-	-0-	-0-	50.00
Residence Hall Cultural Enrichment Program Fund	1,927.14	-0-	8,506.06	2,753.24	7,679.96
Room Security Deposit	-0-	4,650.00	-0-	4,650.00	-0-
Special Summer Sessions - Boston	78.40	-0-	-0-	-0-	78.40
Student Activities - Boston	-0-	112,402.02	29,550.82	106,979.46	34,973.38
Student Activities Fee - Summer Program	11,917.18	53,503.79	(29.70)	38,093.88	27,297.39
Student Union - RSO	167,945.16	687,304.24	17,916.52	724,431.64	148,734.28
Year of Study in France 68-69	-0-	25,450.40	2,192.00	7,142.40	20,500.00
Year of Study in France 69-70	-0-	2,400.00	-0-	-0-	2,400.00
Total - Student Programs	$ 316,033.36	$ 1,627,884.80	$ 328,097.28	$ 1,882,737.20	$ 389,278.24
Sponsored Research					
Abbott	$ 4,926.88	$ -0-	$ -0-	$ -0-	$ 4,926.88
Agway-Cranberry	416.30	-0-	-0-	183.44	232.86
Agway-Engineering	6,585.40	-0-	(299.39)	1,918.20	4,367.81
Agway-Plant Science Fund	-0-	5,000.00	-0-	-0-	5,000.00
Agway-Plant & Soil Sciences Fund	71.16	-0-	-0-	66.00	5.16
Allied Chemical	25.58	-0-	(8.58)	17.00	-0-
Aquacultural Research-Cranberry Fund	-0-	2,000.00	-0-	-0-	2,000.00
Bourne	1,127.33	955.00	-0-	647.35	1,434.98
Cape Cod	13,853.55	6,000.00	-0-	2,151.55	17,702.00
Carnation	1,180.00	-0-	-0-	671.22	508.78
Chevron Chemical Co. #1	500.00	500.00	-0-	300.00	700.00
Chevron Chemical Co. #2	750.48	500.00	(500.00)	669.04	81.44
Chevron Chemical Company #3	-0-	-0-	500.00	121.39	378.61
Commercial Filters	2.29	-0-	-0-	2.29	-0-
Consolidated Cigar	8.61	-0-	-0-	4.60	4.01
Corn Industries	1,579.74	-0-	-0-	1,048.09	531.65
Corn Products-Food Technology Institute	1,939.32	-0-	-0-	914.91	1,024.41
Cox	420.54	-0-	-0-	37.73	382.81
Dairy Genetics	7,343.40	7,000.00	-0-	9,986.35	4,357.05
Furukawa Research Fund	-0-	239.00	-0-	-0-	239.00
Geigy Chemical Corp.	7,415.17	-0-	-0-	1,235.94	6,179.23
Geigy-Cranberry	73.37	-0-	-0-	-0-	73.37
Geigy-Forestry	-0-	1,000.00	-0-	-0-	1,000.00
General Electric-Stein	1,371.55	-0-	-0-	956.30	415.25
General Tire & Rubber Co.	12,877.70	6,500.00	8.58	9,186.50	10,199.78
Hercules Powder	4.88	-0-	(.15)	4.73	-0-
Hoffman LaRoche #5	45.10	-0-	-0-	45.00	.10
Keratene Company	3,806.72	2,500.00	-0-	2,745.01	3,461.71
Kimberly Clark	761.28	-0-	-0-	116.35	644.93
Kimberly Clark-Litsky	-0-	8,500.00	-0-	-0-	8,500.00
Lederle Fund	6,050.08	-0-	-0-	-0-	6,050.08
Lestoil Products	201.83	-0-	-0-	-0-	201.83
Leucosis Fund	26,551.77	13,000.00	-0-	18,677.36	20,874.41

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Sponsored Research (Continued)					
Massachusetts Golf Assoc.	$ 500.00	$ -0-	$ -0-	$ 60.00	$ 440.00
Mastitis Fund	368.21	-0-	-0-	126.95	241.26
Mech. Engr. Trust Fund	-0-	1,695.10	5,527.30	1,167.80	-0-
Medical Research Council Fund	-0-	462.92	-0-	-0-	462.92
Merk, Sharp and Dohme/Anselme	893.80	-0-	-0-	76.50	817.30
Milk Check Fund	436.30	-0-	-0-	130.17	306.13
Mobile Chemical Company	544.50	-0-	-0-	329.75	214.75
Monsanto Chemical Company	1,478.98	1,000.00	-0-	1,453.92	1,025.06
Monsanto - Polymer	4,564.71	-0-	3,000.00	3,204.90	4,359.81
Nantucket Study Fund	-0-	2,000.00	-0-	1,624.91	375.09
Norton Fund	680.23	-0-	-0-	44.21	636.02
Norwich Fund	164.16	-0-	-0-	10.00	154.16
Ocean Spray Cranberry	19,066.38	10,796.60	-0-	8,145.15	21,717.83
Oyster Research	-0-	400.00	-0-	191.88	208.12
Pfizer Fund	4,523.74	-0-	-0-	12.50	4,511.24
Polymer Science & Engineering Trust Fund	-0-	7,500.00	-0-	3,226.11	4,273.89
Poultry Vaccine Research	1,368.00	4,178.00	-0-	498.74	5,047.26
Shawinigan Resins Corp.	479.89	-0-	-0-	51.19	428.70
Shell Chemical	2,594.25	3,000.00	-0-	1,627.01	3,967.24
Sire Evaluation	128.00	-0-	-0-	-0-	128.00
Sylvania Trust Fund	119.45	-0-	(1.09)	118.36	-0-
Takeda Chemical Company	7,120.08	-0-	-0-	2,116.94	5,003.14
T-H Chemical-Cranberry Fund	830.20	500.00	-0-	253.82	1,076.38
T-H Chemical-Herbicide Fund	-0-	500.00	-0-	306.00	194.00
Turfgrass Fund	559.10	500.00	-0-	659.02	400.08
Union Carbide Corp. Trust Fund	-0-	5,000.00	-0-	-0-	5,000.00
Vanderbilt-Cranberry Trust Fund	100.00	100.00	-0-	-0-	200.00
Vegetable Crops Research Fund	371.13	3,000.00	-0-	361.96	3,009.17
Western Electric Fund	-0-	-0-	(406.39)	(406.39)	-0-
Total - Sponsored Research	$ 146,781.14	$ 97,631.52	$ 3,988.08	$ 81,457.25	$ 166,943.49
University of Massachusetts Sponsored Research					
Faculty Research Grants	$ 45,642.49	$ 200.00	$ 85,000.00	$ 88,229.35	$ 42,613.14
Total - University of Massachusetts Sponsored Research	$ 45,642.49	$ 200.00	$ 85,000.00	$ 88,229.35	$ 42,613.14
Non-Profit Organizations & Foundations Research Grants					
Agricultural Development Council	$ 754.00	$ -0-	$ -0-	$ 76.44	$ 677.56
American Cancer Society Grant PS 50	-0-	8,732.00	-0-	5,625.00	3,107.00
American Petroleum Institute #155	672.47	-0-	-0-	-0-	672.47
American Potash Institute	2,922.72	-0-	-0-	985.38	1,937.34
Berkshire County	11.12	-0-	-0-	11.12	-0-
Boston Market Garden Seed Improvement	1,863.07	-0-	-0-	14.98	1,848.09
Bureau of Government Research	1,066.98	393.03	-0-	815.42	644.59
Campbell Institute for Food Research	978.52	-0-	4,000.00	3,961.07	1,017.45

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Non-Profit Organizations & Foundations Research Grants (Cont.)					
Carnegie Fund-Edmund Burke	$ 4,014.71	$ 10,000.00	$ -0-	$ 9,738.45	$ 4,276.26
Chronic Respiratory Disease Fund	5,074.59	-0-	-0-	1,594.78	3,479.81
Column Research Council Trust Fund	-0-	1,000.00	-0-	-0-	1,000.00
Conservation Foundation of New York	2,795.51	-0-	-0-	2,795.51	-0-
Cooperative Fishery Project 3601-09-13	3,688.63	20,000.00	-0-	20,801.13	2,887.50
Dairy Adjustment	1,257.48	-0-	(1,163.26)	94.22	-0-
Eastern States	12.10	-0-	(.61)	11.49	-0-
Franklin County Public Hospital Research Grant	2,037.02	485.00	29.69	2,066.71	485.00
Frasch Foundation	349.06	8,000.00	-0-	7,417.27	931.79
Gulf Oil Corporation	3,459.90	5,000.00	-0-	1,663.50	6,796.40
John W. Hill Foundation	6,439.95	25,800.00	-0-	17,755.28	14,484.67
Joseph Hill Foundation Fund Fellowship	766.23	-0-	-0-	177.18	589.05
Holyoke Trust Fund	1,160.00	-0-	-0-	476.23	683.77
Irradiation Fund	46.10	-0-	-0-	27.46	18.64
Kettering (642 CRAM)	44,399.96	81,250.00	(3,750.00)	118,598.05	3,301.91
Charles F. Kettering Foundation (Wolf)	4,819.74	10.60	1,721.68	6,552.02	-0-
Charles F. Kettering #648 (Micro Counseling)	-0-	32,259.80	-0-	22,232.35	10,027.45
Link Foundation	-0-	1,500.00	-0-	-0-	1,500.00
Lower Pioneer Valley Regional Plan Committee Trust Fund	-0-	-0-	800.00	400.00	400.00
Carol Buttenwieser Loeb Fund	1,000.00	-0-	-0-	-0-	1,000.00
Massachusetts Merchandising Research Foundation	6,594.34	81.00	-0-	2,114.94	4,560.40
Massachusetts Nurserymen's Association Fund	617.71	1,000.00	-0-	84.10	1,533.61
Massachusetts Society for Promoting Agriculture	4,722.95	-0-	-0-	4,222.92	500.03
Medical Care and Research	-0-	7,195.99	(320.19)	4,316.50	2,559.30
National Tuberculosis Assoc.	69.61	3,430.45	(447.45)	3,029.39	23.22
National Resources	546.57	2,191.87	-0-	1,884.89	853.55
New England Board of Higher Education-Population Res.	-0-	10,000.00	2,000.00	7,053.93	4,946.07
New World Foundation	-0-	-0-	7,417.96	7,417.96	-0-
New York Florists Club	1,000.00	-0-	-0-	826.00	174.00
Petroleum Research Foundation:					
American Chemical Society	6,875.46	-0-	5,025.00	4,246.49	7,653.97
500-A4	2,262.87	7,560.00	1,260.00	5,331.38	3,231.49
575-A5	1,054.80	8,000.00	(1,334.00)	5,613.00	2,107.80
598-A2	67.61	-0-	-0-	58.57	9.04
973-A4	136.14	-0-	-0-	8.64	127.50
1637-A1	722.38	-0-	-0-	583.14	139.24
1946-A1-3	202.53	-0-	-0-	187.40	15.13
2179-A1-4	2,168.56	9,000.00	(1,500.00)	4,981.83	4,686.73
2371-A5	2,254.46	-0-	-0-	2,242.86	11.60
2865-A5	5,652.99	7,200.00	(1,200.00)	8,040.76	3,612.23
2914-A5	9,404.12	6,900.00	(1,150.00)	7,918.18	7,235.94
3357-A1-3	-0-	10,430.00	(2,476.36)	4,467.73	3,485.91
3398-A6	-0-	12,640.00	(2,106.00)	6,517.35	4,016.65
3551-A1 4	7,215.40	-0-	-0-	1,568.59	5,646.81
3556-A3	-0-	9,000.00	(1,500.00)	5,553.62	1,946.38

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Non-Profit Organizations & Foundations Research Grants (Cont.)					
Planned Parenthood League of Massachusetts	$ 2,177.16	$ -0-	$ -0-	$ 1,638.56	$ 538.60
Population Council Grants:					
#D-65-092	1,022.45	-0-	102.24	1,124.69	-0-
#M-67-116	1,631.99	-0-	-0-	1,606.86	25.13
Research Corporation					
Cottrell-McGill	727.95	-0-	-0-	84.93	643.02
Cottrell-Schwartz	-0-	5,900.00	-0-	92.42	5,807.58
Engineering Fund	892.09	650.00	-0-	-0-	1,542.09
Research Service Fund-Agric.	2,304.12	1,558.00	1,163.26	647.99	4,377.39
Resources for the Future	8,453.04	33,000.00	-0-	31,254.69	10,198.35
Salmonella-G.H.S. Fund	15,358.02	8,500.00	-0-	13,062.06	10,795.96
Sears, Roebuck Foundation, N.E. Distributive Conf.	-0-	2,093.13	-0-	2,038.53	54.60
Shell Cranberry	500.00	300.00	-0-	57.32	742.68
Alfred P. Sloan BR 993	6,500.00	-0-	-0-	934.85	5,565.15
Alfred P. Sloan BR 1191	-0-	8,050.00	(1,050.00)	-0-	7,000.00
Alfred P. Sloan BR 1192	-0-	550.00	-0-	-0-	550.00
Alfred P. Sloan BR 1193	-0-	9,200.00	-0-	-0-	9,200.00
Alfred P. Sloan Research Fellowship	1,014.67	-0-	(75.00)	839.67	100.00
Stearns Fund	-0-	1,000.00	-0-	89.10	910.90
Whitehill Foundation, Inc.	-0-	6,710.00	(610.00)	1,340.00	4,760.00
Wildlife Management	792.52	1,000.00	-0-	1,477.94	314.58
Total-Non Profit Organizations & Foundations Research Grants	$ 182,532.37	$ 367,570.87	$ 2,316.96	$ 368,450.82	$ 183,969.38
Federal Grants & Contracts					
Training Grants & Contracts					
National Institutes of Health:					
AI 00226-06	$ -0-	$ -0-	$ 4,221.43	$ 4,221.43	$ -0-
AI 00226-07	-0-	-0-	31,545.49	31,545.49	-0-
AHI 68-589-(B)A	-0-	-0-	11,954.30	11,954.30	-0-
AHI 68-589-(B)B	-0-	-0-	4,213.19	4,213.19	-0-
AHI 69-589-(C)A	-0-	-0-	1,484.43	1,484.43	-0-
AHI 69-589-(C)B	-0-	-0-	473.25	473.25	-0-
GM 01301-03	-0-	-0-	3,525.35	3,525.35	-0-
GM 08494-03	-0-	-0-	2,626.34	2,626.34	-0-
GM 08494-04	-0-	-0-	14,304.91	14,304.91	-0-
HD 00204-01	-0-	-0-	4,746.23	4,746.23	-0-
HD 00204-02	-0-	-0-	44,018.02	44,018.02	-0-
MH 06244-13	-0-	-0-	151.37	151.37	-0-
MH 06244-14	-0-	-0-	72,306.13	72,306.13	-0-
MH 06400-12	-0-	-0-	5,165.69	5,165.69	-0-
MH 06400-13	-0-	-0-	21,257.52	21,257.52	-0-
NT 131	-0-	-0-	4,541.54	4,541.54	-0-
NPG 367-01	-0-	-0-	7,229.48	7,229.48	-0-
PHT-7-43A-67	-0-	-0-	3,465.99	3,465.99	-0-
PHT-7-43B-68	-0-	-0-	12,783.54	12,783.54	-0-
Sub-Total	$ -0-	$ -0-	$ 250,014.20	$ 250,014.20	$ -0-

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Grants & Contracts (Cont.)					
Training Grants & Contracts					
National Science Foundation:					
GE 4766	$ -0-	$ -0-	$ 1,315.93	$ 1,315.93	$ -0-
GE 7933	-0-	-0-	2,383.02	2,383.02	-0-
GP 9111	-0-	-0-	9,308.29	9,308.29	-0-
GP 9213	-0-	-0-	4,167.20	4,167.20	-0-
GW 2768	-0-	-0-	20,459.56	20,459.56	-0-
GW 2910	-0-	-0-	2,420.70	2,420.70	-0-
GW 2976	-0-	-0-	13,962.82	13,962.82	-0-
GW 3681	-0-	-0-	1,480.00	1,480.00	-0-
GW 4072	-0-	-0-	866.46	866.46	-0-
GW 4086	-0-	-0-	2,418.81	2,418.81	-0-
GY 3905	-0-	-0-	909.90	909.90	-0-
GY 4124	-0-	-0-	2,175.15	2,175.15	-0-
GY 4353	-0-	-0-	2,412.98	2,412.98	-0-
GY 4361	-0-	-0-	6,729.99	6,729.99	-0-
GY 4622	-0-	-0-	6,271.02	6,271.02	-0-
GY 5393	-0-	-0-	7,260.00	7,260.00	-0-
GY 5825	-0-	-0-	1,080.00	1,080.00	-0-
GY 6011	-0-	-0-	500.55	500.55	-0-
GZ 98	-0-	-0-	2,208.03	2,208.03	-0-
GZ 506	-0-	-0-	3,242.41	3,242.41	-0-
GZ 861	-0-	-0-	77,671.98	77,671.98	-0-
GZ 1220	-0-	-0-	1,515.00	1,515.00	-0-
Sub-Total	$ -0-	$ -0-	$ 170,759.80	$ 170,759.80	$ -0-
National Aeronautics & Space Administration:					
NSG-T-137	$ 19,676.76	$ 65,564.00	$ -0-	$ 67,065.42	$ 18,175.34
Sub-Total	$ 19,676.76	$ 65,564.00	$ -0-	$ 67,065.42	$ 18,175.34
Office of Civil Defense:					
PS 65-87	$ 4,551.87	$ 74,778.50	$ (15,897.80)	$ 56,247.85	$ 7,184.72
Sub-Total	$ 4,551.87	$ 74,778.50	$ (15,897.80)	$ 56,247.85	$ 7,184.72
Peace Corps:					
P. C. 51-930	$ -0-	$ -0-	$ 2,186.62	$ 2,186.62	$ -0-
Sub-Total	$ -0-	$ -0-	$ 2,186.62	$ 2,186.62	$ -0-

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Grants & Contracts (Cont.)					
Training Grants & Contracts					
U. S. Office of Education:					
OE 6-19-087	$ 350.00	$ -0-	$ (350.00)	$ -0-	$ -0-
OEC 0-8-089023-3312(010)	776.98	51,736.55	18,394.45	70,899.09	8.99
OEC 1-7-440562-2521	177.50	-0-	(177.50)	-0-	-0-
OEG 0-8-080255-2254(044)	10,368.12	109,245.00	(58,000.00)	57,795.42	3,817.70
OEG 0-8-080642-2434(046)	25,491.40	-0-	4,784.07	30,275.47	-0-
OEG 0-8-080719-2435(046)	31,775.59	2,819.00	-0-	33,092.38	1,502.21
OEG 0-9-310538-2217(725)	-0-	-0-	53,728.62	53,728.62	-0-
OEG 0-9-311359-2147(725)	-0-	-0-	36,587.60	36,587.60	-0-
OEG 0-9-311694-2175(722)	-0-	-0-	125.95	125.95	-0-
OEG 0-9-313128-3593(725)	-0-	-0-	1,200.00	1,200.00	-0-
OEG 0-9-316008-2455(725)	-0-	-0-	15,795.85	15,795.85	-0-
OEG 1-6-061877-1528	-0-	10,973.59	(10,973.59)	-0-	-0-
OEG 1-7-061877-3804	18,403.11	5,727.98	(2,133.33)	21,997.76	-0-
OEG 1-8-061877-0006-058	-0-	20,120.00	60,793.44	80,913.44	-0-
Sub-Total	$ 87,342.70	$ 200,622.12	$ 119,775.56	$ 402,411.58	$ 5,328.80
Vocational Rehabilitation Administration:					
VRA-442-T-69	$ -0-	$ -0-	$ 5,928.50	$ 5,928.50	$ -0-
Sub-Total	$ -0-	$ -0-	$ 5,928.50	$ 5,928.50	$ -0-
Department of Interior:					
DI 14-17-007-277G	$ 279.00	$ -0-	$ (279.00)	$ -0-	$ -0-
DI 14-17-007-653G	3,943.00	-0-	-0-	2,980.62	962.38
DI WP 00012-01	-0-	41,968.00	(3,108.00)	11,775.31	27,084.69
DI WP-00077-03	6,183.82	-0-	(13.38)	4,815.95	1,354.49
DI WP-00077-04	-0-	51,302.00	(3,794.00)	33,329.03	14,178.97
DI WP-00077-05	-0-	20,141.00	(1,500.00)	-0-	18,641.00
Sub-Total	$ 10,405.82	$ 113,411.00	$ (8,694.38)	$ 52,900.91	$ 62,221.53
Facilities Grants					
National Institutes of Health:					
RC-461	$ 6,611.00	$ -0-	$ -0-	$ -0-	$ 6,611.00
RC-764	8,965.00	-0-	-0-	-0-	8,965.00
Sub-Total	$ 15,576.00	$ -0-	$ -0-	$ -0-	$ 15,576.00

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Grants & Contracts (Cont.)					
Equipment Grants					
National Science Foundation:					
GZ-705	$ -0-	$ -0-	$ 18,664.06	$ 18,664.06	$ -0-
GY 1210	-0-	-0-	1,119.21	1,119.21	-0-
GK 1403	-0-	-0-	20,086.00	20,086.00	-0-
GY 3171	-0-	-0-	16,910.39	16,910.39	-0-
GZ 3706	-0-	-0-	2,982.36	2,982.36	-0-
GY 4956	-0-	-0-	6,997.18	6,997.18	-0-
GY 4957	-0-	-0-	16,164.73	16,164.73	-0-
GP 8535	-0-	-0-	44,000.00	44,000.00	-0-
Sub-Total	$ -0-	$ -0-	$ 126,923.93	$ 126,923.93	$ -0-
U. S. Army Contracts:					
DA-ARO-D-31-124-G 752	$ 4,717.77	$ -0-	$ -0-	$ 782.91	$ 3,934.86
	$ 4,717.77	$ -0-	$ -0-	$ 782.91	$ 3,934.86
U. S. Office of Education:					
OE 92-000815	$ .28	$ -0-	$ -0-	$ -0-	$ .28
OE 92-000816	5,000.00	-0-	-0-	5,000.00	-0-
OEG-0-8-031077-0791(314)	-0-	62,445.00	-0-	62,381.10	63.90
Sub-Total	$ 5,000.28	$ 62,445.00	$ -0-	$ 67,381.10	$ 64.18
Atomic Energy:					
AEC-NSE-16-68	$ 19,490.00	$ -0-	$ -0-	$ 19,490.00	$ -0-
Sub-Total	$ 19,490.00	$ -0-	$ -0-	$ 19,490.00	$ -0-
Miscellaneous Grants & Contracts					
Agency for International Development:					
AID/afr-281	$ -0-	$ 360,000.00	$ (48,300.75)	$ 297,466.77	$ 14,232.48
AID/afr-437	-0-	185,000.00	(27,757.82)	143,048.73	14,193.45
Office of Economic Opportunity:					
Upward Bound					
Amherst 1967-1968	2,207.60	19,498.00	(107.06)	21,598.54	-0-
Amherst 1968-1969	55,669.66	92,802.00	(3,923.72)	142,390.78	2,157.16
Amherst 1969-1970	-0-	-0-	4,281.72	4,281.72	-0-
Boston 1967-1968	18,583.58	-0-	(15,065.61)	3,517.97	-0-
Boston 1968-1969	41,667.25	59,263.00	17,912.55	94,276.85	24,565.95
OEO-CG-8834-67-68	-0-	61,766.00	(38,087.85)	23,634.80	43.35
OEO-CG 8834-68-69	-0-	180,000.00	6,566.37	118,264.98	68,301.39
Head Start 1221-136	21.00	-0-	-0-	-0-	21.00

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Grants & Contracts (Cont.)					
Miscellaneous Grants & Contracts (Cont.)					
ROTC Flight Training:					
BB-08-68-C-48	$ 1,054.25	$ -0-	$ -0-	$ 1,054.25	$ -0-
State Technical Service:					
OSTS 11-20	16,170.00	-0-	(2,222.00)	7,779.81	6,168.19
OSTS 12-20-6800	3,750.00	53,953.42	8,800.88	66,504.30	-0-
OSTS 12-20-69100	-0-	-0-	11,325.12	11,325.12	-0-
U.S. Deptartment of Education:					
OE77-31-0790 Educ. Opportunity	-0-	-0-	327,603.99	327,603.99	-0-
OE 72-002221	-0-	-0-	5,633.75	5,633.75	-0-
NEOG 160-1	-0-	-0-	5,940.00	5,940.00	-0-
NEOG 160-2	-0-	-0-	8,700.00	8,700.00	-0-
Massachusetts Rehabilitation Facility - Speech Dept.	-0-	7,800.00	-0-	7,800.00	-0-
Sub-Total	$ 139,123.34	$ 1,020,082.42	$ 261,299.57	$ 1,290,822.36	$ 129,682.97
Sub-Total - Federal Grants and Contracts, Other than for Research	$ 305,884.54	$ 1,536,903.04	$ 912,296.00	$ 2,512,915.18	$ 242,168.40
Federal Research Grants and Contracts					
National Institutes of Health:					
AA-4-69-86-01	$ -0-	$ -0-	$ 15,487.53	$ 15,487.53	$ -0-
AI-00742-13	-0-	-0-	337.97	337.97	-0-
AI-00742-14	-0-	-0-	31,492.56	31,492.56	-0-
AI-00742-15	-0-	-0-	3,838.78	3,838.78	-0-
AI-04291-07	-0-	-0-	11,295.45	11,295.45	-0-
AI-04291-08	-0-	-0-	17,862.18	17,862.18	-0-
AI-04953-06	-0-	-0-	25,050.40	25,050.40	-0-
AI-05440-05	-0-	-0-	12,008.88	12,008.88	-0-
AI-05440-06	-0-	-0-	6,102.55	6,102.55	-0-
AI-06153-04	-0-	-0-	145.30	145.30	-0-
AI-06153-05	-0-	-0-	13,704.31	13,704.31	-0-
AI-06153-06	-0-	-0-	2,557.60	2,557.60	-0-
AI-06294-04	-0-	-0-	3,171.04	3,171.04	-0-
AI-06735-03	-0-	-0-	522.79	522.79	-0-
AI-06735-04	-0-	-0-	14,447.74	14,447.74	-0-
AI-06735-05	-0-	-0-	541.04	541.04	-0-
AI-06848-02	-0-	-0-	164.13	164.13	-0-
AI-06848-03	-0-	-0-	7,354.96	7,354.96	-0-
AI-06848-04	-0-	-0-	1,037.42	1,037.42	-0-
AI-07654-02	-0-	-0-	13,303.39	13,303.39	-0-
AI-07654-03	-0-	-0-	9,248.85	9,248.85	-0-
AI-08248-01	-0-	-0-	3,661.35	3,661.35	-0-
AI-08248-02	-0-	-0-	1,747.18	1,747.18	-0-
AI-08396-01	-0-	-0-	24,376.30	24,376.30	-0-
AI-08396-02	-0-	-0-	1,360.44	1,360.44	-0-
AI-08491-01	-0-	-0-	15,943.75	15,943.75	-0-

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
National Institutes of Health: (Cont.)					
AM-01266-12	$ -0-	$ -0-	$ 6,184.25	$ 6,184.25	$ -0-
AM-01266-13	-0-	-0-	3,673.49	3,673.49	-0-
AM-11157-01	-0-	-0-	2,175.05	2,175.05	-0-
AM-11157-02	-0-	-0-	22,127.14	22,127.14	-0-
AM-11157-03	-0-	-0-	6,705.49	6,705.49	-0-
AM-12163-01	-0-	-0-	5,138.00	5,138.00	-0-
AM-12163-02	-0-	-0-	820.76	820.76	-0-
AM-13100-01	-0-	-0-	13,751.72	13,751.72	-0-
AP-00791-01	-0-	-0-	6,681.91	6,681.91	-0-
CA-06620-06	-0-	-0-	1,977.38	1,977.38	-0-
CA-06620-07	-0-	-0-	7,487.24	7,487.24	-0-
CC-00049-05	-0-	-0-	1,671.55	1,671.55	-0-
CC-00049-06	-0-	-0-	6,338.20	6,338.20	-0-
CC-00267-02	-0-	-0-	3,629.55	3,629.55	-0-
CC-00267-03 A	-0-	-0-	8,523.61	8,523.61	-0-
CC-00267-03 B	-0-	-0-	7,183.45	7,183.45	-0-
EF-00696-03	-0-	-0-	289.19	289.19	-0-
EF-00656-03	-0-	-0-	685.80	685.80	-0-
EF-00873-02	-0-	-0-	75.48	75.48	-0-
FR-07048-03	-0-	-0-	71,464.45	71,464.45	-0-
FR-07048-04	-0-	-0-	2,836.93	2,836.93	-0-
GM-05921-10	-0-	-0-	10,521.46	10,521.46	-0-
GM-08776-07	-0-	-0-	6,833.12	6,833.12	-0-
GM-08776-08	-0-	-0-	17,630.88	17,630.88	-0-
GM-09706-04	-0-	-0-	3,855.92	3,855.92	-0-
GM-09706-05	-0-	-0-	7,736.12	7,736.12	-0-
GM-11071-05	-0-	-0-	1,359.92	1,359.92	-0-
GM-11071-06	-0-	-0-	21,527.59	21,527.59	-0-
GM-11071-07	-0-	-0-	3,556.18	3,556.18	-0-
GM-12064-05	-0-	-0-	13,865.61	13,865.61	-0-
GM-12064-06	-0-	-0-	2,135.20	2,135.20	-0-
GM-12527-01	-0-	-0-	2,384.52	2,384.52	-0-
GM-13558-03	-0-	-0-	6,210.05	6,210.05	-0-
GM-13558-04	-0-	-0-	2,745.33	2,745.33	-0-
GM-13689-02	-0-	-0-	757.48	757.48	-0-
GM-13689-03	-0-	-0-	11,461.47	11,461.47	-0-
GM-14634-02	-0-	-0-	5,428.80	5,428.80	-0-
GM-14634-03	-0-	-0-	8,233.34	8,233.34	-0-
GM-14686-02	-0-	-0-	7,480.72	7,480.72	-0-
GM-14686-03	-0-	-0-	4,640.92	4,640.92	-0-
GM-14945-02	-0-	-0-	5,655.48	5,655.48	-0-
GM-14945-03	-0-	-0-	15,106.80	15,106.80	-0-
GM-15538-01	-0-	-0-	6,356.56	6,356.56	-0-
GM-15538-02	-0-	-0-	11,176.86	11,176.86	-0-
HD-00336-08	-0-	-0-	7,110.26	7,110.26	-0-
HD-00745-04	-0-	-0-	25.50	25.50	-0-
HD-00745-05	-0-	-0-	7,047.60	7,047.60	-0-
HD-01216-04	-0-	-0-	1,085.48	1,085.48	-0-
HD-03948-01	-0-	-0-	10,897.67	10,897.67	-0-
HD-04189-01	-0-	-0-	2,528.94	2,528.94	-0-
HE-11342-01	-0-	-0-	45.30	45.30	-0-
HE-11342-02	-0-	-0-	11,964.44	11,964.44	-0-
HE-11342-03	-0-	-0-	1,141.59	1,141.59	-0-
MH-01061-11	-0-	-0-	340.45	340.45	-0-
MH-01293-11	-0-	-0-	2,000.00	2,000.00	-0-

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
National Institutes of Health: (Cont.)					
MH-01293-12	$ -0-	$ -0-	$ 9,127.25	$ 9,127.25	$ -0-
MH-01293-13	-0-	-0-	15,198.86	15,198.86	-0-
MH-03803-07	-0-	-0-	143.88	143.88	-0-
MH-03803-08	-0-	-0-	10,097.72	10,097.72	-0-
MH-03803-09	-0-	-0-	1,000.40	1,000.40	-0-
MH-13155-02	-0-	-0-	8,814.13	8,814.13	-0-
MH-13155-03	-0-	-0-	5,046.86	5,046.86	-0-
MH-15728-01	-0-	-0-	2,170.00	2,170.00	-0-
MH-16150-01	-0-	-0-	4,882.57	4,882.57	-0-
MH-16296-01	-0-	-0-	4,120.48	4,120.48	-0-
MH-16472-01	-0-	-0-	1,387.50	1,387.50	-0-
NB-08119-11	-0-	-0-	16,331.78	16,331.78	-0-
NB-08306-01-A1	-0-	-0-	1,360.00	1,360.00	-0-
NB-08573-01	-0-	-0-	1,310.00	1,310.00	-0-
PH-22-68-39	-0-	5,483.47	5,516.53	10,494.56	505.44
PHS-86-67-175	43.83	14,382.45	(3,297.14)	11,129.14	-0-
UI-00091-10	-0-	-0-	7,208.63	7,208.63	-0-
UI-00092-07	-0-	-0-	13,353.98	13,353.98	-0-
UI-00092-08	-0-	-0-	4,390.88	4,390.88	-0-
UI-00145-05	-0-	-0-	7,767.59	7,767.59	-0-
UI-00145-06	-0-	-0-	4,282.65	4,282.65	-0-
UI-00148-04	-0-	-0-	7,544.43	7,544.43	-0-
UI-00148-05	-0-	-0-	4,203.88	4,203.88	-0-
UI-00159-04	-0-	-0-	18,407.15	18,407.15	-0-
UI-00159-05	-0-	-0-	2,366.91	2,366.91	-0-
UI-00687-03	-0-	-0-	8,937.21	8,937.21	-0-
UI-00687-04	-0-	-0-	642.59	642.59	-0-
Sub-Total	$ 43.83	$ 19,865.92	$ 799,348.81	$ 818,753.12	$ 505.44
National Science Foundation:					
GA-390	$ -0-	$ -0-	$ 2,819.09	$ 2,819.09	$ -0-
GA-467	-0-	-0-	2,184.85	2,184.85	-0-
GA-476	66.05	18.10	-0-	71.45	12.70
GA-518	-0-	-0-	2,924.52	2,924.52	-0-
GA-1529	-0-	-0-	15,094.66	15,094.66	-0-
GA-10102	-0-	-0-	287.07	287.07	-0-
GB-3334	-0-	-0-	439.42	439.42	-0-
GB-3516	-0-	-0-	973.84	973.84	-0-
GB-3591	-0-	-0-	222.98	222.98	-0-
GB-3615	-0-	-0-	1,606.87	1,606.87	-0-
GB-3863	-0-	-0-	766.40	766.40	-0-
GB-3884	-0-	-0-	5,106.39	5,106.39	-0-
GB-4139	-0-	-0-	8,548.03	8,548.03	-0-
GB-4147	-0-	-0-	1,431.06	1,431.06	-0-
GB-4591	-0-	-0-	267.66	267.66	-0-
GB-5130	-0-	-0-	9,460.49	9,460.49	-0-
GB-5162	-0-	-0-	60.76	60.76	-0-
GB-5480	-0-	-0-	6,896.12	6,896.12	-0-
GB-6085	-0-	-0-	6,441.03	6,441.03	-0-
GB-6182	-0-	-0-	9,056.86	9,056.86	-0-
GB-6233	-0-	-0-	4,718.02	4,718.02	-0-
GB-6570	-0-	-0-	4,902.63	4,902.63	-0-
GB-6691	-0-	-0-	3,776.88	3,776.88	-0-

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
National Science Foundation (Cont.)					
GB-6715	$ -0-	$ -0-	$ 8,849.37	$ 8,849.37	$ -0-
GB-6845	-0-	-0-	8,457.20	8,457.20	-0-
GB-6847	-0-	-0-	6,591.74	6,591.74	-0-
GB-7077	-0-	-0-	19,569.45	19,569.45	-0-
GB-7191	-0-	-0-	4,509.67	4,509.67	-0-
GB-7225	-0-	-0-	7,271.69	7,271.69	-0-
GB-7274	-0-	-0-	13,989.47	13,989.47	-0-
GB-7456	-0-	-0-	11,868.44	11,868.44	-0-
GB-7462	-0-	-0-	13,107.80	13,107.80	-0-
GB-7547	0-	-0-	3,990.83	3,990.83	-0-
GB-7965	-0-	-0-	4,798.69	4,798.69	-0-
GB-7996	-0-	-0-	5,538.90	5,538.90	-0-
GB-8022	-0-	-0-	11,122.17	11,122.17	-0-
GB-8068	-0-	-0-	405.25	405.25	-0-
GB-8080	-0-	-0-	1,580.00	1,580.00	-0-
GB-8450	-0-	-0-	1,768.50	1,768.50	-0-
GB-8634	-0-	-0-	1,126.53	1,126.53	-0-
GB-9254	-0-	-0-	4,762.39	4,762.39	-0-
GB-11569	-0-	-0-	1,116.15	1,116.15	-0-
GJ-60	-0-	-0-	10,531.93	10,531.93	-0-
GK-810	-0-	-0-	118.56	118.56	-0-
GK-1110	-0-	-0-	6,615.19	6,615.19	-0-
GK-1209	-0-	-0-	2,643.74	2,643.74	-0-
GK-1562	-0-	-0-	2,377.41	2,377.41	-0-
GK-1565	-0-	-0-	2,998.99	2,998.99	-0-
GK-1573	-0-	-0-	1,171.93	1,171.93	-0-
GK-1856	-0-	-0-	6,776.32	6,776,32	-0-
GK-1907	-0-	-0-	18,266.70	18,266.70	-0
GK-2065	-0-	-0-	10,304.72	10,304.72	-0-
GK-2230	-0-	-0-	8,619.96	8,619.96	-0-
GK-2606	-0-	-0-	11,250.90	11,250.90	-0-
GK-2781	-0-	-0-	5,754.94	5,754.94	-0-
GK-2801	-0-	-0-	28,585.93	28,585.93	-0-
GK-2982	-0-	-0-	15,493.37	15,493.37	-0-
GK-3651	-0-	-0-	6,166.45	6,166.45	-0-
GK-4556	-0-	-0-	8,869.26	8,869.26	-0-
GK-4945	-0-	-0-	1,350.00	1,350.00	-0-
GN-435	-0-	-0-	130.35	130.35	-0-
GP-3805	-0-	-0-	21.44	21.44	-0-
GP-4283	-0-	-0-	1,648.53	1,648.53	-0-
GP-5372	-0-	-0-	9,861.68	9,861.68	-0-
GP-5508	-0-	-0-	8,012.56	8,012.56	-0-
GP-5646	-0-	-0-	418.06	418.06	-0-
GP-5840	-0-	-0-	1,133.31	1,133.31	-0-
GP-5971	-0-	-0-	1,760.12	1,760.12	-0-
GP-6107	-0-	-0-	550.20	550.20	-0-
GP-6188	-0-	-0-	8,132.89	8,132.89	-0-
GP-6189	-0-	-0-	2,551.34	2,551.34	-0-
GP-6190	-0-	-0-	9,800.00	9,800.00	-0-
GP-6216	-0-	-0-	7,556.09	7,556.09	-0-
GP-6338	-0-	-0-	15,083.21	15,083.21	-0-
GP-6414	-0-	-0-	3,227.80	3,227.80	-0-
GP-6651	-0-	-0-	743.15	743.15	-0-
GP-6942	-0-	-0-	15,151.59	15,151.59	-0-
GP-7037	-0-	-0-	3,006.50	3,006.50	-0-
GP-7067	-0-	-0-	3,294.74	3,294.74	-0-

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
National Science Foundation (Cont.)					
GP-7320	$ -0-	$ -0-	$ 1,260.00	$ 1,260.00	$ -0-
GP-7360	-0-	-0-	3,167.90	3,167.90	-0-
GP-7367	-0-	-0-	2,897.90	2,897.90	-0-
GP-7556	-0-	-0-	1,073.82	1,073.82	-0-
GP-7575	-0-	-0-	8,596.38	8,596.38	-0-
GP-7664	-0-	-0-	6,417.70	6,417.70	-0-
GP-7774	-0-	-0-	8,329.33	8,329.33	-0-
GP-7793	-0-	-0-	19,865.90	19,865.90	-0-
GP-7828	-0-	-0-	10,174.99	10,174.99	-0-
GP-7897	-0-	-0-	7,436.39	7,436.39	-0-
GP-7904	-0-	-0-	35,643.79	35,643.79	-0-
GP-7912	-0-	-0-	5,742.66	5,742.66	-0-
GP-8101	-0-	-0-	4,342.13	4,342.13	-0-
GP-8205	-0-	-0-	2,392.00	2,392.00	-0-
GP-8304	-0-	-0-	12,412.62	12,412.62	-0-
GP-8314	-0-	-0-	3,245.58	3,245.58	-0-
GP-8374	-0-	-0-	9,277.09	9,277.09	-0-
GP-8412	-0-	-0-	7,029.95	7,029.95	-0-
GP-8418	-0-	-0-	15,431.69	15,431.69	-0-
GP-8465	-0-	-0-	11,015.66	11,015.66	-0-
GP-8577	-0-	-0-	11,848.82	11,848.82	-0-
GP-8581	-0-	-0-	13,235.67	13,235.67	-0-
GP-8747	-0-	-0-	3,686.78	3,686.78	-0-
GP-8782	-0-	-0-	3,778.10	3,778.10	-0-
GP-8826	-0-	-0-	3,478.90	3,478.90	-0-
GP-8929	-0-	-0-	11,596.70	11,596.70	-0-
GP-8978	-0-	-0-	6,765.72	6,765.72	-0-
GP-8998	-0-	-0-	7,382.73	7,382.73	-0-
GP-9005	-0-	-0-	15,384.93	15,384.93	-0-
GP-9267	-0-	-0-	11,075.89	11,075.89	-0-
GP-9409	-0-	-0-	5,368.34	5,368.34	-0-
GP-9469	-0-	-0-	337.93	337.93	-0-
GP-10694	-0-	-0-	518.94	518.94	-0-
GP-10925	-0-	-0-	3,056.94	3,056.94	-0-
GP-11214	-0-	-0-	15,442.80	15,442.80	-0-
GP-12393	-0-	-0-	273.00	273.00	-0-
GS-386	-0-	-0-	1,413.58	1,413.58	-0-
GS-1700	-0-	-0-	5,270.92	5,270.92	-0-
GS-1727	-0-	-0-	16,294.73	16,294.73	-0-
GS-2103	-0-	-0-	8,092.24	8,092.24	-0-
GS-2449	-0-	-0-	1,583.34	1,583.34	-0-
GY-4709	-0-	-0-	9,066.23	9,066.23	-0-
Sub-Total	$ 66.05	$ 18.10	$ 789,096.44	$ 789,167.89	$ 12.70
U.S. Dept. of Agriculture:					
ARS-12-14-100-8870-44	$ 2,315.29	$ -0-	$ 5,814.87	$ 8,130.16	$ -0-
ARS-12-14-100-29-91	-0-	6,375.00	-0-	1,361.70	5,013.30
12-11-007-19020	405.55	41.20	(446.75)	-0-	-0-
09-19135	357.26	-0-	-0-	17.60	339.66
DA-23-00-014	4.13	-0-	(4.13)	-0-	-0-
DA-23-00-019	1.44	5,269.17	1,679.29	5,162.61	1,787.29
DA-23-00-103	-0-	203.30	296.70	281.01	218.99
Sub-Total	$ 3,083.67	$ 11,888.67	$ 7,339.98	$ 14,953.08	$ 7,359.24

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
U.S. Air Force:					
AFF-33615-68-C-1053	$ 807.85	$ 9,640.61	$ (2,640.61)	$ 6,898.08	$ 909.77
AFF-19628-68-C-0214	45.02	19,283.98	(3,283.98)	15,536.04	508.98
AF-19-628-2486	-0-	199.93	404.55	27.36	577.12
AF-19-628-4948	-0-	-0-	(30.26)	(30.26)	-0-
AFOSR-68-1384	5,746.17	9,286.00	(1,974.00)	8,667.61	4,390.56
AFOSR-68-1434	7,810.02	24,511.00	(6,181.00)	21,094.54	5,045.48
AFOSR-68-1440	11,068.35	10,099.00	(3,072.00)	14,336.15	3,759.20
AFOSR-68-1527	6,538.00	15,176.00	(4,734.00)	4,129.16	12,850.84
AFOSR-69-1722	-0-	8,728.00	(2,577.00)	2,440.00	3,711.00
AFOSR-69-1748	-0-	13,348.00	(3,348.00)	150.90	9,849.10
AFOSR-218-66	1,037.59	7,356.00	(1,226.00)	3,897.99	3,269.60
AFOSR-777-67	9,426.36	-0-	-0-	9,424.98	1.38
Sub-Total	$ 42,479.36	$ 117,628.52	$ (28,662.30)	$ 86,572.55	$ 44,873.03
U.S. Dept. of Army:					
DA-31-124-ARO-D-412	$ 130.94	$ 39.60	$ (170.54)	$ -0-	$ -0-
DA-49-193-MD-2989	1,025.82	11,264.54	(3,314.54)	8,955.74	20.08
DA-49-193-MD-3036	912.50	17,445.68	(7,445.68)	10,226.08	686.42
DA-ARO-D-31-124-G-491	799.27	-0-	-0-	664.33	134.94
DA-ARO-D-31-124-G-859	22,095.28	23,124.00	(3,854.00)	25,801.56	15,563.72
DACW-72-67-C-0004	795.08	24,475.74	(7,475.74)	16,906.64	888.44
DAHC-04-68-C-0028	227.20	5,174.60	(4,557.23	9,520.92	438.11
DAHC-19-69-G-0008	-0-	15,044.00	(3,544.00)	4,245.17	7,254.83
Sub-Total	$ 25,986.09	$ 96,568.16	$ (21,247.27)	$ 76,320.44	$ 24,986.54
Atomic Energy:					
AEC-D-NET-11-67	$ 219.10	$ -0-	$ -0-	$ -0-	$ 219.10
AEC-AT(30-1)3461	4,355.47	-0-	993.41	5,348.88	-0-
AEC-AT(30-1)3499	-0-	1,391.31	(1,391.31)	-0-	-0-
AEC-AT(30-1)3561	-0-	14,146.20	(4,762.29)	4,562.29	4,821.62
AEC-AT(30-1)3626	-0-	19,649.70	(5,209.07)	13,117.02	1,323.61
AEC-AT(30-1)3651	11,034.22	167,250.00	(40,802.33)	113,064.73	24,417.16
AEC-AT(30-1)3651-B	-0-	4,500.00	(638.00)	1,499.94	2,362.06
AEC-AT(30-1)3812	2,512.24	-0-	-0-	2,512.24	-0-
AEC-AT(30-1)4096	-0-	16,200.00	(2,010.00)	1,562.00	12,628.00
Sub-Total	$ 18,121.03	$ 223,137.21	$ (53,819.59)	$ 141,667.10	$ 45,771.55
National Aeronautics and Space Administration:					
NAS-12-606-A	$ -0-	$ 14,472.72	$ (5,265.38)	$ 8,357.29	$ 850.05
NAS-12-606-B	-0-	11,542.03	(2,985.93)	7,632.46	923.64
NGR-22-010-012	-0-	14,000.00	(3,066.93)	10,933.07	-0-
NGR-22-010-018	-0-	12,500.00	(3,805.51)	8,694.49	-0-
NGR-22-010-019	131.43	-0-	207.61	339.04	-0-
NGR-22-010-023	-0-	30,000.00	(10,003.67)	19,996.33	-0-
NGR-22-010-025	-0-	63,077.00	(18,905.99)	44,171.01	-0-
NGR-22-010-029	-0-	27,000.00	(3,723.35)	21,187.03	2,089.62

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
National Aeronautics and Space Administration (Cont.):					
NGR-22-010-039	$ -0-	$ 80,000.00	$ (20,903.09)	$ 54,446.92	$ 4,649.99
NGR-22-010-041	-0-	1,856.00	(157.23)	1,698.77	-0-
NGR-22-010-042	-0-	6,000.00	1,477.00	7,477.00	-0-
Harvard University-- P.O. #A24658	502.27	124.88	(523.08)	104.07	-0-
Sub-Total	$ 633.70	$ 260,572.63	$ (67,655.55)	$ 185,037.48	$ 8,513.30
U.S. Dept. of Interior:					
DI-14-16-0005-3124	$ -0-	$ -0-	$ 1,088.00	$ 1,088.00	$ -0-
DI-14-17-0004-315	206.49	621.21	(620.66)	207.04	-0-
DI-OSW-14-01-0001-1251	11,264.85	6,400.00	(1,068.00)	12,196.11	4,400.74
Di-SFWB-32378	-0-	333.32	(293.10)	40.22	-0-
DI-SFWB-89840	97.82	-0-	(97.82)	-0-	-0-
DI-WP-14-12-7	-0-	6,260.22	(6,260.22)	-0-	-0-
DI-WP-01204-01	4,113.65	6.00	89.46	4,209.11	-0-
DI-WP-01204-02	-0-	6,002.00	(1,402.00)	3,673.67	926.33
DI-WP-01239-01	5,936.95	-0-	2,744.88	8,681.83	-0-
DI-WP-01239-02	-0-	53,054.00	(19,137.31)	32,990.01	926.68
DI-WP-01239-03	-0-	-0-	1,173.61	1,173.61	-0-
DI-WP-01408-01	-0-	44,727.00	(10,427.00)	32,647.28	1,652.72
DI-WP-01408-02	-0-	-0-	100.00	100.00	-0-
WR-B003	1,346.93	26,132.00	-0-	20,042.41	7,436.52
WR-B004	12,171.68	26,230.00	-0-	30,038.91	8,362.77
WR-B005	3,918.89	16,300.00	-0-	11,545.28	8,673.61
WR-B006	243.62	16,666.00	330.87	17,240.49	-0-
WR-B008	-0-	12,600.00	-0-	8,189.29	4,410.71
WR-B010	-0-	31,625.00	-0-	17,399.36	14,225.64
WR-B011	-0-	41,200.00	-0-	36,006.29	5,193.71
Sub-Total	$ 39,300.88	$ 288,156.75	$ (33,779.29)	$ 237,468.91	$ 56,209.43
U.S. Dept. of Navy:					
NONR-3357-(01)	$ 599.57	$ 28,851.56	$ (3,851.56)	$ 25,008.72	$ 590.85
NONR-3357-(02)	288.37	9,037.38	(37.38)	9,261.07	27.30
NONR-3357-(03)	-0-	865.19	(865.19)	-0-	-0-
NONR-3357-(05)	676.59	3,744.09	(2,909.70)	1,510.98	-0-
NONR-3357-(06)	121.02	1,598.53	(1,719.55)	-0-	-0-
NONR-3357-(07)	856.60	5,733.54	(2,733.54)	3,456.39	400.21
NONR-3357-(08)	-0-	9,430.34	(3,558.01)	5,349.67	522.66
N600-167-65486-XFBM	451.63	14,189.89	(7,301.89)	7,322.34	17.29
N00014-67-A-0230-0001	821.38	9,249.30	12,750.70	21,793.36	1,028.02
N00014-67-A-0230-0002	931.54	48,351.48	(8,351.48)	40,390.83	540.71
N00014-67-A-0230-0003	375.72	9,178.63	(1,178.63)	7,505.91	869.81
N00014-67-A-0230-0004	-0-	-0-	1,000.00	355.00	645.00
Themis	246.11	207,974.34	(52,974.34)	153,281.80	1,964.31
Sub-Total	$ 5,368.53	$ 348,204.27	$ (71,730.57)	$ 275,236.07	$ 6,606.16

Schedule B-9 (Continued)

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Federal Research Grants & Contracts (Cont.)					
U.S. Office of Education:					
OE-5-10-155	$ 701.79	$ -0-	$ (701.79)	$ -0-	$ -0-
OE-6-10-349	1.77	-0-	(1.77)	-0-	-0-
OEC-0-9-310417-4040(010)	-0-	-0-	22,500.00	21,584.50	915.50
OEG-0-8-003093-3093(031)B	-0-	20,000.00	-0-	8,895.46	11,104.54
OEG-0-9-311104-3112(031)B	-0-	-0-	4,630.00	4,630.00	-0-
OEG-0-9-313519-3519(097)	-0-	11,702.00	-0-	2,243.84	9,458.16
OEG-1-6-000496-0662	-0-	37,709.66	1,568.29	28,216.24	11,061.71
OEG-1-7-000211-0211	6,838.00	108,064.22	(23,064.22)	90,785.05	1,052.95
OEG-1-7-068710-3112	66.48	3,140.00	(3,187.13)	19.35	-0-
OEG-1-8-08A028-0032-058	-0-	6,986.00	(1,607.05)	5,378.95	-0-
OEG-1-9-090003-0102	-0-	7,055.00	(1,255.00)	2,050.75	3,749.25
OEG-1-9-090022-0109	-0-	5,923.00	(1,805.00)	1,528.89	2,589.11
Sub-Total	$ 7,608.04	$ 200,579.88	$ (2,923.67)	$ 165,333.03	$ 39,931.22
U.S. Dept. of Labor:					
91-23-68-27	$ 6,518.25	$ -0-	$ -0-	$ 4,480.33	$ 2,037.92
91-23-68-931	-0-	5,000.00	-0-	4,732.01	267.99
91-23-69-20	-0-	9,720.00	-0-	2,581.50	7,138.50
Sub-Total	$ 6,518.25	$ 14,720.00	$ -0-	$ 11,793.84	$ 9,444.41
Other:					
H-67-044	$ 972.06	$ -0-	$ 32.52	$ 1,004.58	$ -0-
H-69-041	-0-	2,000.00	-0-	1,830.24	169.76
Community Service--					
68-024-005	12,873.91	10,500.00	3,372.00	26,745.91	-0-
68-025-001	-0-	13,058.55	(1,758.52)	10,848.63	451.40
VI-11-67	6,674.21	8,400.00	-0-	14,837.32	236.89
DC-E-174-69N	-0-	-0-	3,000.00	2,379.13	620.87
OCD-05-63-125	-0-	9,172.00	(9,172.00)	-0-	-0-
Massachusetts Bureau of Vocational Education-0662	-0-	12,210.00	-0-	10,390.04	1,819.96
Sub-Total	$ 20,520.18	$ 55,340.55	$ (4,526.00)	$ 68,035.85	$ 3,298.88
Total Federal Research Grants and Contracts	$ 169,729.61	$ 1,636,680.66	$ 1,311,440.99	$ 2,870,339.36	$ 247,511.90
Total Federal Grants and Contracts	$ 475,614.15	$ 3,173.583.70	$ 2,223,736.99	$ 5,383,254.54	$ 489,680.30
Grand Total - All Trust Funds	$ 3,421,474.30	$27,527,406.22	$ (456,083.43)	$26,478,214.99	$ 4,014,582.10

Schedule B-10

Agency Funds

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Disbursements	Balance June 30, 1969
Burhorst Agency	$ -0-	$ 547.10	$ -0-	$ 205.34	$ 341.76
Carnegie Internship Program	1,209.86	-0-	-0-	136.94	1,072.92
Committee for Collegiate Ed. for Black Students	-0-	50,000.00	-0-	44,405.65	5,594.35
Disadvantaged Students Fund	1,176.41	10.00	-0-	1,186.41	-0-
Educational Facilities Laboratory	-0-	5,800.00	-0-	5,760.82	39.18
Education Film and Tape	-0-	6,100.00	1,200.00	5,693.68	1,606.32
Educational Testing Service	104.09	1,742.00	-0-	1,709.49	136.60
Equipment Shortage AFROTC	331.60	20.56	-0-	157.48	194.68
Equipment Shortage AROTC	1,229.05	188.31	14.74	-0-	1,432.10
Federal Tax on Personal Telephone Calls	9.89	17.25	-0-	24.22	2.92
4-H Activities	1,166.74	1,722.30	-0-	2,371.55	517.49
Health-Physical-Education & Recreation Agency	-0-	673.31	-0-	665.94	7.37
Home Economics Scholarship Banquet	1.59	-0-	-0-	-0-	1.59
Honors Banquet Fund	176.09	1,245.00	-0-	1,421.09	-0-
Massachusetts Education Film Fund	484.93	610.00	-0-	430.95	663.98
Massachusetts Review	14,095.42	26,271.39	11,000.00	39,756.48	11,610.33
Mildred Pierpoint Memorial Fund	185.00	-0-	-0-	-0-	185.00
National Council of College Publications Advisors	1,606.20	875.50	-0-	345.30	2,136.40
Prudential Insurance	-0-	272,363.50	9,031.95	267,209.60	14,185.85
Special Military Fund	125.61	107.00	-0-	170.04	62.57
Insurance Premium State Employees	57,188.57	77,579.61	(9,428.40)	42,601.98	82,737.80
Student Deposit	72,897.45	1,387,618.12	-0-	1,396,192.99	64,322.58
Student Health & Accident Insurance	6,847.25	62,150.70	(443.45)	68,126.05	428.45
Tax Sheltered Annuities	67,671.95	349,488.98	-0-	336,393.20	80,767.73
U. S. Savings Bonds.	4,915.92	116,870.45	-0-	116,202.67	5,583.70
Wildlife Services	7,863.68	27,624.40	-0-	28,581.94	6,906.14
Total Agency Funds	$239,287.30	$2,389,625.48	$11,374.84	$2,359,749.81	$280,537.81

Schedule B-11

U of M Trustees for

University of Massachusetts Building Authority

Statement of Receipts, Disbursements, Transfers and Balances

Description	Balance July 1, 1968	Transfers In	Receipts	Transfers Out	Disbursements	Balance June 30, 1969
First Project						
Brett & Gorman Dorms						
Revenue Account	$ 583.22	$ -0-	$ 258,937.62	$ 98,124.86	$ 161,395.98	$ -0-
Maintenance and Operating Account	81,493.16	98,124.86	-0-	-0-	146,184.39	33,433.63
Unpaid Check Fund	30.00	-0-	-0-	-0-	-0-	30.00
Total	$ 82,106.38	$ 98,124.86	$ 258,937.62	$ 98,124.86	$ 307,580.37	$ 33,463.63
Second Project						
Dickinson, Field, Grayson and Webster Dorms						
Revenue Account	$ 1,113.80	$ -0-	$ 594,036.90	$ 258,092.23	$ 335,949.12	$ 1,109.35
Maintenance and Operating Account	77,475.06	258,092.23	60,000.00	-0-	331,126.79	64,440.50
Unpaid Check Fund	30.00	-0-	-0-	-0-	-0-	30.00
Total	$ 78,618.86	$ 258,092.23	$ 654,036.90	$ 258,092.23	$ 667,075.91	$ 65,579.85
Third Project						
Franklin Dining Commons						
Revenue Account	$ -0-	$ -0-	$ 125,169.48	$ -0-	$ 125,169.48	$ -0-
Total	$ -0-	$ -0-	$ 125,169.48	$ -0-	$ 125,169.48	$ -0-
Fourth Project						
Emerson, James, Melville Thoreau, Kennedy & Coolidge Dorms and Alumni Stadium						
Revenue Account	$ 48,303.93	$ -0-	$1,015,617.87	$ 396,062.47	$ 660,419.93	$ 7,439.40
Maintenance and Operating Account	5,955.05	396,062.47	25,000.00	-0-	327,818.31	99,199.21
Unpaid Check Fund	60.00	-0-	-0-	-0-	30.00	30.00
Total	$ 54,318.98	$ 396,062.47	$1,040,617.87	$ 396,062.47	$ 988,268.24	$106,668.61
Fifth Project						
Hampshire Dining Commons						
Revenue Account	$ -0-	$ -0-	$ 153,771.43	$ -0-	$ 153,771.43	$ -0-
Total	$ -0-	$ -0-	$ 153,771.43	$ -0-	$ 153,771.43	$ -0-

Schedule B-11 (Continued)

U of M Trustees for

University of Massachusetts Building Authority

Statement of Receipts, Disbursements, Transfers and Balances

Description	Balance July 1, 1968	Transfers In	Receipts	Transfers Out	Disbursements	Balance June 30, 1969
Sixth Project						
J. Q. Adams, J. Adams and Washington Dorms						
Revenue Account	$ 123.61	$ -0-	$ 811,989.14	$ 288,753.41	$ 523,124.58	$ 234.76
Maintenance and Operating Account	21,629.12	288,753.41	100,000.00	-0-	372,451.43	37,931.10
Total	$ 21,752.73	$ 288,753.41	$ 911,989.14	$ 288,753.41	$ 895,576.01	$ 38,165.86
Seventh Project						
Hampton Dining Commons						
Revenue Account	$ -0-	$ -0-	$ 160,373.95	$ -0-	$ 160,373.95	$ -0-
Total	$ -0-	$ -0-	$ 160,373.95	$ -0-	$ 160,373.95	$ -0-
Eighth Project						
Crampton, Mackimmie, Patterson, and Prince						
Revenue Account	$ 34,659.53	$ -0-	$ 568,098.70	$ 261,653.38	$ 287,726.55	$ 53,378.30
Maintenance and Operating Account	61,875.01	261,653.38	40,000.00	-0-	282,363.25	81,165.14
Total	$ 96,534.54	$ 261,653.38	$ 608,098.70	$ 261,653.38	$ 570,089.80	$134,543.44
Ninth Project						
Berkshire Dining Commons						
Revenue Account	$ -0-	$ -0-	$ 165,180.75	$ -0-	$ 165,180.75	$ -0-
Total	$ -0-	$ -0-	$ 165,180.75	$ -0-	$ 165,180.75	$ -0-
Tenth Project						
Cance, Pierpont and Moore						
Revenue Account	$ -0-	$ -0-	$ 414,766.72	$ 75,349.47	$ 292,775.05	$ 46,642.20
Maintenance and Operating Account	-0-	75,349.47	25,000.00	-0-	49,882.37	50,467.10
Total	$ -0-	$ 75,349.47	$ 439,766.72	$ 75,349.47	$ 342,657.42	$ 97,109.30
GRAND TOTALS	$333,331.49	$1,378,035.82	$4,517,942.56	$1,378,035.82	$4,375,743.36	$475,530.69

Schedule C

Analysis of General Maintenance Appropriation

by Subsidiary Accounts

Code No.		Appropriation	Available for Expenditures	Total Exp. and Encumbrances	Balance of Approp. June 30, 1969
Amherst 1350-01					
01	Salaries, Permanent	$18,932,000.00	$18,932,000.00	$18,931,414.59	$ 585.41
02	Salaries, Other	5,911,000.00	5,911,000.00	5,902,276.70	8,723.30
03	Services, Non-Employees	3,709,000.00	3,709,000.00	3,708,405.04	594.96
04	Food for Persons	1,020.00	1,020.00	1,009.79	10.21
05	Clothing	6,000.00	6,000.00	5,978.59	21.41
06	Housekeeping Supplies & Expenses	95,000.00	95,000.00	94,990.83	9.17
07	Laboratory, Med. & Gen. Care	10,000.00	10,000.00	9,993.42	6.58
08	Heat & Other Plant Operations	1,200,000.00	1,200,000.00	1,199,961.59	38.41
09	Farm and Grounds	120,000.00	120,000.00	119,965.62	34.38
10	Travel & Automotive Expenses	188,000.00	188,000.00	187,996.86	3.14
11	Advertising and Printing	140,000.00	140,000.00	139,931.29	68.71
12	Repairs, Alterations & Additions	600,000.00	600,000.00	599,837.95	162.05
13	Special Supplies & Expenses	687,000.00	687,000.00	686,963.93	36.07
14	Office & Administration Expenses	513,480.00	513,480.00	512,776.89	703.11
15	Equipment	472,000.00	472,000.00	471,934.67	65.33
16	Rentals	950,000.00	950,000.00	949,947.94	52.06
	Totals	$33,534,500.00	$33,534,500.00	$33,523,385.70	$11,114.30(a)
Boston 1350-02					
01	Salaries, Permanent	$ 2,554,000.00	$ 2,554,000.00	$ 2,553,947.64	$ 52.36
02	Salaries, Other	518,000.00	518,000.00	514,428.89	3,571.11
03	Services, Non-Employees	755,000.00	755,000.00	754,775.14	224.86
04	Food for Persons	-0-	-0-	-0-	-0-
05	Clothing	-0-	-0-	-0-	-0-
06	Housekeeping Supplies & Expenses	1,500.00	1,500.00	1,486.26	13.74
07	Laboratory, Med. & Gen. Care	3,000.00	3,000.00	2,998.24	1.76
08	Heat & Other Plant Operations	80,000.00	80,000.00	79,438.00	562.00
09	Farm and Grounds	-0-	-0-	-0-	-0-
10	Travel & Automotive Expenses	20,000.00	20,000.00	19,962.49	37.51
11	Advertising and Printing	20,000.00	20,000.00	19,997.28	2.72
12	Repairs, Alterations & Additions	25,000.00	25,000.00	24,996.09	3.91
13	Special Supplies & Expenses	213,000.00	213,000.00	212,926.27	73.73
14	Office & Administrative Expenses	80,000.00	80,000.00	79,896.85	103.15
15	Equipment	172,500.00	172,500.00	172,461.69	38.31
16	Rentals	922,000.00	922,000.00	921,974.61	25.39
	Totals	$ 5,364,000.00	$ 5,364,000.00	$ 5,359,289.45	$ 4,710.55(a)
Medical School 1350-38					
00	Medical School	$ 57,284.65	$ 57,284.65	$ 53,507.69	$ 3,776.96
01	Salaries, Permanent	292,081.60	292,081.60	235,317.75	56,763.85
02	Salaries, Other	15,168.12	15,168.12	12,635.96	2,532.16
03	Services, Non-Employees	77,783.83	77,783.83	76,391.37	1,392.46
04	Food for Persons	-0-	-0-	-0-	-0-
05	Clothing	-0-	-0-	-0-	-0-
06	Housekeeping Supplies & Expenses	700.00	700.00	116.96	583.05
07	Laboratory, Medical & General Care	-0-	-0-	-0-	-0-
08	Heat and Other Plant Operations	9,000.00	9,000.00	8,448.00	552.00
09	Farm and Grounds	500.00	500.00	-0-	500.00
10	Travel and Automotive Expenses	18,711.68	18,711.68	15,041.29	3,670.39
11	Advertising and Printing	10,940.55	10,940.55	8,017.74	2,922.81
12	Repairs, Alterations and Additions	8,274.44	8,274.44	2,651.82	5,622.62
13	Special Supplies and Expenses	18,247.55	18,247.55	7,650.26	10,597.29
14	Office and Administrative Expenses	13,543.39	13,543.39	7,124.44	6,418.95
15	Equipment	15,066.56	15,066.56	14,689.51	377.05
16	Rentals	1,000.00	1,000.00	852.93	147.07
	Totals	$ 538,302.37	$ 538,302.37	$ 442,445.71(c)	$95,856.66(b)

Schedule C (Continued)

Analysis of General Maintenance Appropriation

by Subsidiary Accounts

Code No.	Subsidiary Accounts	Appropriation	Available for Expenditures	Total Exp. and Encumbrances	Balance of Approp. June 30, 1969
Other Maintenance					
1350-10-13	For Certain Scholarships	$ 700,000.00	$ 700,000.00	$ 698,011.08	$ 1,988.92(a)
1350-35-14	Entertainment of Distinguished Visitors	1,000.00	1,000.00	1,000.00	-0-
1350-36-16	Rental Fee - President's House	1,200.00	1,200.00	1,200.00	-0-
1350-40-03	Disadvantaged Students	50,000.00	50,000.00	49,984.09	15.91(a)
1350-40-13	Disadvantaged Students (Special Supplies & Exp.)	100,000.00	100,000.00	99,991.09	8.91 (a)
1350-41-15	Program of Assistance to Higher Education	100,000.00	100,000.00	99,998.38	1.62 (a)
1350-50-13	Library Books - Amherst	200,000.00	200,000.00	200,000.00	-0-
1350-51-13	Library Books - Boston	100,000.00	100,000.00	99,999.27	.73(a)
1350-70-03	Senior Internship	35,000.00	35,000.00	29,997.56	5,002.44(a)
1350-71-03	Legislative Internship Program	9,000.00	9,000.00	9,000.00	-0-
1350-80-03	Technical Service	175,000.00	130,620.00	130,620.00(d)	-0-
1350-21-00	Research for Federal Grants	235,791.72	235,791.72	144,031.03(e)	91,760.69(b)
3304-44	Inland Fish and Game	8,500.00	8,500.00	7,966.58	533.42(a)
3304-55	Fisheries and Cooperative Research	10,000.00	10,000.00	10,000.00	-0-
	Totals	$ 1,725,491.72	$ 1,681,111.72	$ 1,581,799.08	$ 99,312.64
	GRAND TOTALS	$41,162,294.09	$41,117,914.09	$40,906,919.94	$210,994.15

(a) Balances reverted to State Treasurer

(b) Balances carried forward to Fiscal Year 1970

(c) Encumbrances carried forward to Fiscal Year 1970 - $ 63,696.55

(d) Encumbrances carried forward to Fiscal Year 1970 - $126,658.93

(e) Encumbrances carried forward to Fiscal Year 1970 - $ 6,562.99

Schedule C-1

Five Year Comparison Statement of Receipts and Expenditures
July 1, 1964 to June 30, 1969

Opening Balances and Receipts

	1965	1966	1967	1968	1969
State Appropriations					
Balance	$ 2,136,153.72	$ 3,760,462.82	$ 2,540,895.41	$ 49,247,076.25 (a)	$ 3,032,218.75
Appropriation	21,021,665.60	25,481,273.37	34,580,252.48	37,753,499.97	44,018,117.99
Total	$23,157,819.32	$29,241,736.19	$37,121,147.89	$ 87,000,576.22	$ 47,050,336.74
Federal Appropriations					
Balance	$ 357,817.64	$ 287,791.11	$ 455,498.87	$ 249,278.01	$ 237,555.51
Receipts	1,645,477.93	1,795,401.52	1,878,621.07	1,980,083.88	2,075,325.39
Total	$ 2,003,295.57	$ 2,083,192.63	$ 2,334,119.94	$ 2,229,361.89	$ 2,312,880.90
Endowment Fund Income					
Balance	$ 40,847.52	$ 55,079.02	$ 75,583.69	$ 79,866.15	$ 91,049.39
Receipts	31,223.05	47,772.68	90,403.74	58,614.76	58,455.45
Transfers	-0-	-0-	-0-	44,872.73	51,783.22
Total	$ 72,070.57	$ 102,851.70	$ 165,987.43	$ 183,353.64	$ 201,288.06
Revolving Student Loan Funds					
Balance	$ 875,760.73	$ 1,305,271.14	$ 1,792,873.10	$ 2,274,935.37	$ 2,612,932.65
Interest-Income & Addition	436,977.81	504,824.66	495,254.10	371,675.27	343,319.70
Less: Loans Cancelled	(7,467.40)	(17,222.70)	(15,991.83)	(31,495.75)	(63,375.06)
Total	$ 1,305,271.14	$ 1,792,873.10	$ 2,272,135.37	$ 2,615,114.89	$ 2,892,877.29
Trust Funds					
Balance	$ 2,854,824.88	$ 2,651,226.93	$ 2,635,453.84	$ 3,488,530.53	$ 3,562,110.23
Receipts	9,052,640.14	10,778,967.45	16,922,392.79	20,345,551.31	27,687,192.78
Transfers	5,357,293.01	6,350,868.35	9,407,519.75	13,281,810.96	444,708.59
Total	$17,264,758.03	$19,781,062.73	$28,965,366.38	$ 37,115,892.80	$ 31,694,011.60
Agency Funds					
Balance	$ 99,830.01	$ 98,523.91	$ 120,347.35	$ 176,403.06	$ 239,287.30
Receipts	1,341,359.25	1,483,823.34	1,778,502.75	2,240,791.07	2,389,625.48
Transfers	11,478.09	25,828.94	10,000.00	253,322.40	11,374.84
Total	$ 1,452,667.35	$ 1,608,176.19	$ 1,908,850.10	$ 2,670,516.53	$ 2,640,287.62
U of M Trustee for U of M Building Authority					
Balance	$ 85,414.22	$ 205,275.77	$ 263,457.71	$ 317,354.20	$ 333,331.49
Receipts	783,861.45	1,191,778.66	2,700,167.31	3,447,567.73	4,517,942.56
Transfers	346,724.36	344,721.42	661,558.59	820,135.95	1,378,035.82
Total	$ 1,216,000.03	$ 1,741,775.85	$ 3,625,183.61	$ 4,585,057.88	$ 6,229,309.87
Total Receipts, Transfers and Balances	$46,471,882.01	$56,351,668.39	$76,392,790.72	$136,399,873.85	$ 93,020,992.08
Less: Transfers-Contra	5,715,495.46	6,721,418.71	10,079,078.34	14,400,142.04	1,885,902.47
TOTAL RECEIPTS AND BALANCES	$40,756,386.55	$49,630,249.68	$66,313,712.38	$121,999,731.81	$ 91,135,089.61

(a) Balance includes $45,000,000.00 appropriation for Medical School.

Schedule C-1 (Continued)

Five Year Comparison Statement of Receipts and Expenditures
July 1, 1964 to June 30, 1969

Expenditures and Closing Balances

	1965	1966	1967	1968	1969
State Appropriations					
Net Total	$19,303,927.52	$25,245,840.78	$33,145,563.80	$ 38,968,274.45	$ 44,435,372.66
Balance	3,853,891.80	3,995,895.41	3,975,584.09	48,032,301.77(a)	2,614,964.08
Total	$23,157,819.32	$29,241,736.19	$37,121,147.89	$ 87,000,576.22	$ 47,050,336.74
Federal Appropriations					
Net Total	$ 1,715,504.46	$ 1,627,693.76	$ 2,084,841.93	$ 1,991,806.38	$ 2,024,048.84
Balance	287,791.11	455,498.87	249,278.01	237,555.51	288,832.06
Total	$ 2,003,295.57	$ 2,083,192.63	$ 2,334,119.94	$ 2,229,361.89	$ 2,312,880.90
Endowment Fund Income					
Expenditures	$ 16,991.55	$ 27,268.01	$ 86,121.28	$ 47,431.52	$ 51,344.52
Transfers	-0-	-0-	-0-	44,872.73	51,783.22
Balance	57,079.02	75,583.69	79,866.15	91,049.39	98,160.32
Total	$ 72,070.57	$ 102,851.70	$ 165,987.43	$ 183,353.64	$ 201,288.06
Revolving Student Loan Funds					
Balances	$ 1,305,271.14	$ 1,792,873.10	$ 2,272,135.37	$ 2,615,114.89	$ 2,892,877.29
Total	$ 1,305,271.14	$ 1,792,873.10	$ 2,272,135.37	$ 2,615,114.89	$ 2,892,877.29
Trust Funds					
Expenditures	$ 9,244,760.00	$10,769,411.60	$16,060,344.39	$ 20,262,136.82	$ 27,036,972.15
Transfers	5,368,771.10	6,376,197.29	9,416,895.75	13,291,645.75	456,083.43
Balance	2,651,226.93	2,635,453.84	3,488,126.24	3,562,110.23	4,200,956.02
Total	$17,264,758,03	$19,781,062.73	$28,965,366.38	$ 37,115,892.80	$ 31,694,011.60
Agency Funds					
Expenditures	$ 1,354,143.44	$ 1,487,328,84	$ 1,731,418.75	$ 2,187,741.62	$ 2,359,749.81
Transfers	-0-	500.00	624.00	243,487.61	-0-
Balances	98,523.91	120,347.35	176,807.35	239,287.30	280,537.81
Total	$ 1,452,667.35	$ 1,608,176.19	$ 1,908,850.10	$ 2,670,516.53	$ 2,640,287.62
U of M Trustee for U of M Building Authority					
Expenditures	$ 663,999.90	$ 1,133,596.72	$ 2,646,270.82	$ 3,431,590.44	$ 4,375,743.36
Transfers	346,724.36	344,721.42	661,558.59	820,135.95	1,378,035.82
Balance	205,275.77	263,457.71	317,354.20	333,331.49	475,530.69
Total	$ 1,216,000.03	$ 1,741,775.85	$ 3,625,183.61	$ 4,585,057.88	$ 6,229,309.87
Total Expenditures, Transfers and Balances	$46,471,882.01	$56,351,668.39	$76,392,790.72	$136,399,873.85	$ 93,020,992.08
Less: Transfers-Contra	5,715,495.46	6,721,418.71	10,079,078.34	14,400,142.04	1,885,902.47
TOTAL EXPENDITURES AND BALANCES	$40,756,386.55	$49,630,249.68	$66,313,712.38	$121,999,731.81	$ 91,135,089.61

(a) Balance includes $45,000,000.00 appropriation for Medical School.

Schedule D

Summary of State General Maintenance

and Federal Appropriation Expenditures

by Budgetary Division

	State Funds			Federal	Total	% of
	Amherst	Boston	Medical			Total
Administration	$ 2,487,356.73	$ 584,769.16	$ 388,938.02	$ -0-	$ 3,461,063.91	8.38
Instruction	23,285,892.76	3,467,569.86	-0-	423,975.44	27,177,438.06	65.81
Experiment Station	1,184,924.24	-0-	-0-	769,488.70	1,954,412.94	4.73
Extension Service	626,625.64	-0-	-0-	830,584.70	1,457,210.34	3.53
Control Service	374,404.22	-0-	-0-	-0-	374,404.22	.91
Operation of Plant	5,564,182.11	1,306,950.43	-0-	-0-	6,871,132.54	16.64
Total	$33,523,385.70	$ 5,359,289.45	$ 388,938.02	$ 2,024,048.84	$41,295,662.01	100.00

Schedule E

State General Maintennace Appropriation

Amherst, Boston and Medical School Comparative Statement of Expenditures

By Budgetary Division

Division	1967 Amount	1967 % of Total	1968 Amount	1968 % of Total	1969 Amount	1969 % of Total
Administration	$ 2,452,390.71	8.60	$ 3,303,339.12	9.57	$ 3,461,063.91	8.81
Instruction	18,980,692.06	66.65	23,504,659.24	68.05	26,753,462.62	68.12
Extension Service	562,909.79	1.97	597,729.74	1.73	626,625.64	1.60
Experiment Station	1,007,805.92	3.53	919,421.97	2.66	1,184,924.24	3.02
Control Service	371,135.97	1.30	379,775.24	1.10	374,404.22	.95
Operation of Plant	5,098,635.32	17.95	5,834,735.52	16.89	6,871,132.54	17.50
Total	$28,473,569.77	100.00	$ 34,539,660.83	100.00	$ 39,271,613.17	100.00

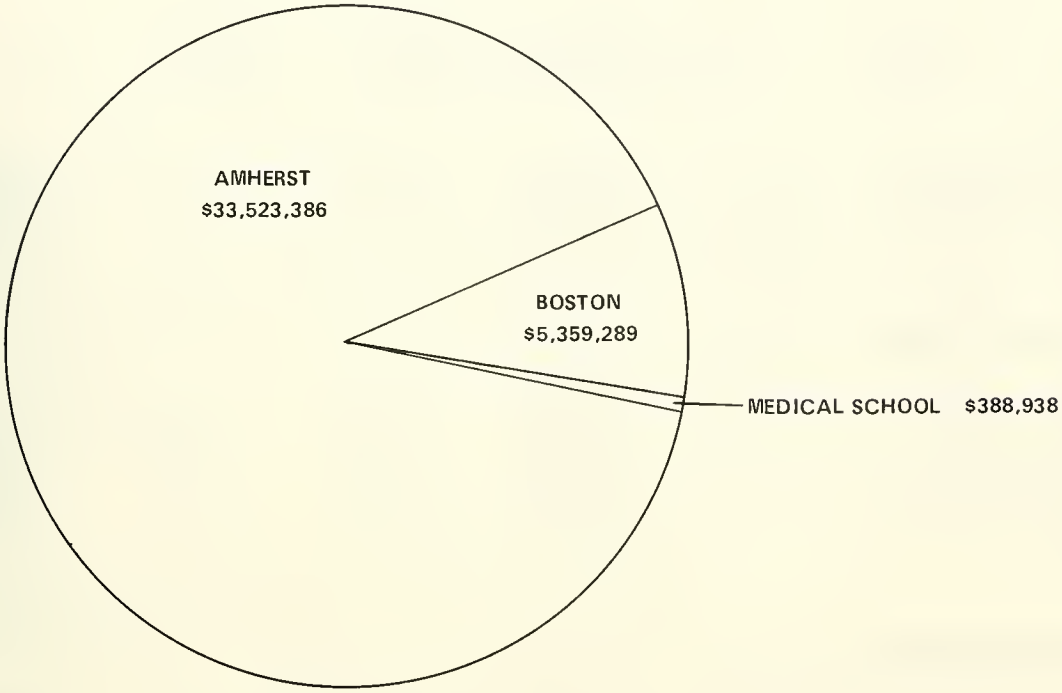
By Subsidiary Account

Code No.		1967	1968	1969
01	Salaries	$15,832,719.72	$19,201,108.47	$21,720,679.98
02	Salaries, Other	4,516,393.46	5,676,716.89	6,429,341.55
03	Service, Non Employees	3,323,607.14	4,030,139.84	4,539,571.55
04	Food	1,552.64	759.65	1,009.79
05	Clothing	9,991.60	11,993.14	5,978.59
06	Housekeeping Supplies & Expenses	76,488.28	83,391.00	96,594.04
07	Lab., Med., & General Care	9,228.23	12,451.80	12,991.66
08	Heat and Other Plant Operation	1,116,904.68	959,879.30	1,287,847.59
09	Farm and Grounds	108,957.50	86,834.04	119,965.62
10	Travel & Automotive Expenses	181,507.99	194,492.25	223,000.64
11	Advertising & Printing	127,123.14	130,307.40	167,946.31
12	Repairs, Alterations & Additions	516,706.30	642,521.21	627,485.86
13	Special Supplies & Expenses	698,480.70	935,076.05	907,540.46
14	Office & Administration Expenses	399,240.93	473,882.62	599,798.18
15	Equipment	475,890.10	548,233.12	659,085.87
16	Rentals	1,078,777.36	1,551,874.05	1,872,775.48
	Total	$28,473,569.77	$34,539,660.83	$39,271,613.17

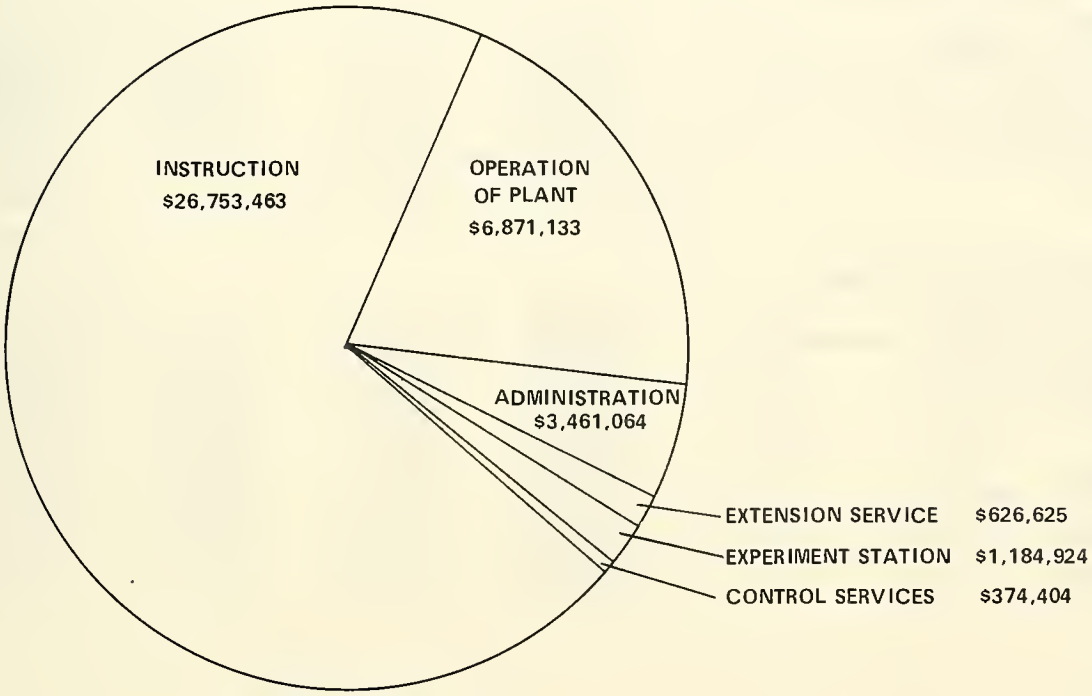
Summary of Expenditures by Budgetary Divisions and Subsidiary Accounts

Code No.	Account Name	Administration	Instruction	Extension	Exp. Station	Cont. Services	Operation of Plant	Total
Amherst (1350-01-00)								
01	Salaries, Permanent	$ 725,516.23	$15,341,554.18	$473,399.35	$ 851,618.41	$274,586.18	$1,264,740.24	$18,931,414.59
02	Salaries, Other	1,174,756.78	2,588,719.34	139,106.39	268,678.95	56,408.96	1,674,606.28	5,902,276.70
03	Services, Non-Employee	102,473.62	3,541,428.32	1,180.90	10,916.26	16,568.65	35,837.29	3,708,405.04
04	Food	250.00	759.79	-0-	-0-	-0-	-0-	1,009.79
05	Clothing	4,963.42	218.37	-0-	162.34	114.00	520.46	5,978.59
06	Housekeeping Supplies & Expenses	-0-	4,335.19	-0-	443.49	-0-	90,212.15	94,990.83
07	Laboratory, Medical & General Care	-0-	9,993.42	-0-	-0-	-0-	-0-	9,993.42
08	Heat & Other Plant Operations	-0-	-0-	-0-	-0-	-0-	1,199,961.59	1,199,961.59
09	Farm and Grounds	-0-	58,185.00	152.00	13,420.85	894.61	47,313.16	119,965.62
10	Travel and Automotive Expenses	12,462.32	137,035.32	842.91	3,738.32	10,269.91	23,648.08	187,996.86
11	Advertising and Expenses	117,848.93	21,867.46	-0-	-0-	-0-	214.90	139,931.29
12	Repairs, Alter. & Additions	11,260.33	107,969.07	890.35	8,568.06	1,317.01	469,833.13	599,837.95
13	Special Supplies & Expenses	60,348.77	488,336.48	1,162.85	6,802.52	12,027.46	118,285.85	686,963.93
14	Office & Administration Expenses	54,316.64	388,873.42	9,734.06	15,363.54	2,135.94	42,353.29	512,776.89
15	Equipment	8,409.01	430,588.71	-0-	22.00	81.50	32,833.45	471,934.67
16	Rentals	214,750.68	166,028.69	156.83	5,189.50	-0-	563,822.24	949,947.94
	Totals	$2,487,356.73	$23,285,892.76	$626,625.64	$1,184,924.24	$374,404.22	$5,564,182.11	$33,523,385.70
Boston (1350-02-00)								
01	Salaries, Permanent	$ 88,323.91	$ 2,465,452.63	$ -0-	$ -0-	$ -0-	$ 171.10	$ 2,553,947.64
02	Salaries, Other	163,076.20	298,556.50	-0-	-0-	-0-	52,796.19	514,428.89
03	Services, Non-Employee	145,589.04	375,055.35	-0-	-0-	-0-	234,130.75	754,775.14
04	Food	-0-	-0-	-0-	-0-	-0-	-0-	-0-
05	Clothing	-0-	-0-	-0-	-0-	-0-	-0-	-0-
06	Housekeeping Supplies & Expenses	399.62	238.00	-0-	-0-	-0-	848.64	1,486.26
07	Laboratory, Medical & General Care	55.00	2,943.24	-0-	-0-	-0-	-0-	2,998.24
08	Heat & Other Plant Operations	-0-	-0-	-0-	-0-	-0-	79,438.00	79,438.00
09	Farm and Grounds	-0-	-0-	-0-	-0-	-0-	-0-	-0-
10	Travel and Automotive Expenses	5,663.63	6,634.65	-0-	-0-	-0-	7,664.21	19,962.49
11	Advertising and Expenses	15,771.87	4,187.81	-0-	-0-	-0-	37.60	19,997.28
12	Repairs, Alter. & Additions	2,419.33	1,728.73	-0-	-0-	-0-	20,848.03	24,996.09
13	Special Supplies & Expenses	44,324.53	168,489.99	-0-	-0-	-0-	111.75	212,926.27
14	Office & Administration Expenses	79,157.92	738.93	-0-	-0-	-0-	-0-	79,896.85
15	Equipment	34,760.27	133,425.96	-0-	-0-	-0-	4,275.46	172,461.69
16	Rentals	5,227.84	10,118.07	-0-	-0-	-0-	906,628.70	921,974.61
	Totals	$ 584,769.16	$ 3,467,569.86	$ -0-	$ -0-	$ -0-	$1,306,950.43	$ 5,359,289.45
Medical School (1350-38-00)								
01	Salaries, Permanent	$ 235,317.75	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ 235,317.75
02	Salaries, Other	12,635.96	-0-	-0-	-0-	-0-	-0-	12,635.96
03	Services, Non-Employee	76,391.37	-0-	-0-	-0-	-0-	-0-	76,391.37
04	Food	-0-	-0-	-0-	-0-	-0-	-0-	-0-
05	Clothing	-0-	-0-	-0-	-0-	-0-	-0-	-0-
06	Housekeeping Supplies & Expenses	116.95	-0-	-0-	-0-	-0-	-0-	116.95
07	Laboratory, Medical & General Care	-0-	-0-	-0-	-0-	-0-	-0-	-0-
08	Heat & Other Plant Operations	8,448.00	-0-	-0-	-0-	-0-	-0-	8,448.00
09	Farm and Grounds	-0-	-0-	-0-	-0-	-0-	-0-	-0-
10	Travel and Automotive Expenses	15,041.29	-0-	-0-	-0-	-0-	-0-	15,041.29
11	Advertising and Printing	8,017.74	-0-	-0-	-0-	-0-	-0-	8,017.74
12	Repairs, Alter. & Additions	2,651.82	-0-	-0-	-0-	-0-	-0-	2,651.82
13	Special Supplies & Expenses	7,650.26	-0-	-0-	-0-	-0-	-0-	7,650.26
14	Office & Administration Expenses	7,124.44	-0-	-0-	-0-	-0-	-0-	7,124.44
15	Equipment	14,689.51	-0-	-0-	-0-	-0-	-0-	14,689.51
16	Rentals	852.93	-0-	-0-	-0-	-0-	-0-	852.93
	Totals	$ 388,938.02	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ 388,938.02
	GRAND TOTALS	$3,461,063.91	$26,753,462.62	$626,625.64	$1,184,924.24	$374,404.22	$6,871,132.54	$39,271,613.17

STATE GENERAL MAINTENANCE EXPENDITURES – $39,271,613



CAMPUSES



BUDGET DIVISIONS

Schedule G

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	Executive Order				
A 11	Trustees	$ -0-	$ 1,338.61	$ -0-	$ 1,338.61
A 12	Office of the President	72,597.68	20,228.82	-0-	92,826.50
A 13	Office of the Secretary	44,790.32	4,307.33	51.75	49,149.40
A 14	Office of the Dean of Administration	45,865.22	3,819.10	-0-	49,684.32
	Total	$ 163,253.22	$ 29,693.86	$ 51.75	$ 192,998.83
	Office of University Relations				
AA 1	News Bureau	$ 50,185.43	$ 4,301.04	$ -0-	$ 54,486.47
AA 2	Publications Office	50,940.78	106,547.16	-0-	157,487.94
AA 3	Photographic Section	39,460.78	317.52	2,737.40	42,515.70
AA 4	Film Center (Motion Pictures)	1,291.00	4,456.25	305.41	6,052.66
AA 5	Development	32,321.54	560.88	-0-	32,882.42
AA 6	Radio Station WFCR-FM	57,817.91	8,976.31	3,339.31	70,133.53
AA 7	Television	3,037.11	835.26	-0-	3,872.37
	Total	$ 235,054.55	$ 125,994.42	$ 6,382.12	$ 367,431.09
	Office of Institutional Studies				
AB 1	Office of Institutional Studies	$ 33,022.02	$ 4,542.91	$ 185.25	$ 37,750.18
	Total	$ 33,022.02	$ 4,542.91	$ 185.25	$ 37,750.18
	Business and Financial Management				
B 11	Treasurer's Office	$ 766,962.34	$ 271,829.79	$ 87,535.76	$ 1,126,327.89
B 12	Business and Personnel Office	278,192.07	25,201.95	43,671.71	347,065.73
B 13	Physical Plant Dept. Executive Office	65,655.60	1,139.41	18,583.75	85,378.76
B 14	Campus Security	349,618.20	11,469.47	41,811.12	402,898.79
B 16	Duplicating Service	60,211.14	11,891.50	20,001.05	92,103.69
B 17	Central Mailing	50,777.49	2,846.79	1,435.31	55,059.59
	Total	$ 1,571,416.84	$ 324,378.91	$ 213,038.70	$ 2,108,834.45
	University of Massachusetts/Boston				
C 11	Chancellor's Office	$ 309,226.28	$1,072,254.88	$ 28,949.40	$ 1,410,430.56
C 21	Business and Financial Management	87,762.87	22,096.13	4,753.05	114,612.05
C 31	Student Personnel	146,374.27	17,948.29	94,478.71	258,801.27
C 32	Health Service	(637.50)	3,365.49	27,374.47	30,102.46
C 41	Library	174,057.53	62,537.45	34,743.42	271,338.40
C 51	Art	31,432.04	2,302.25	1,905.75	35,640.04
C 52	Biology	294,651.10	48,098.54	19,671.12	362,420.76
C 53	Chemistry	197,800.85	48,701.01	28,264.56	274,766.42
C 54	Economics	88,067.94	6,010.74	39,958.71	134,037.39
C 55	English	507,040.67	262.08	25,415.64	532,718.39
C 56	German	110,129.47	120.90	1,107.25	111,357.62
C 57	Government	108,660.03	359.77	6,274.75	115,294.55
C 58	History	322,202.68	2,412.24	13,351.36	337,966.28

Schedule G (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	University of Massachusetts/Boston (Cont.)				
C 59	Mathematics	$ 208,190.59	$ 1,215.59	$ 4,833.00	$ 214,239.18
C 60	Music	27,156.70	4,893.85	2,636.87	34,687.42
C 61	Philosophy	25,493.66	208.70	981.62	26,683.98
C 62	Physics	174,272.36	113,157.41	15,126.76	302,556.53
C 63	Psychology	166,723.79	4,839.91	18,301.76	189,865.46
C 64	Romance Languages	373,474.04	546.00	1,769.50	375,789.54
C 65	Sociology	94,097.11	692.98	2,458.65	97,248.74
C 66	Language Laboratory	8,899.55	3,077.72	10,592.81	22,570.08
C 67	Humanities	34,837.03	1,880.81	4,348.87	41,066.71
C 68	Social Sciences	32,507.74	5,873.65	795.00	39,176.39
C 69	Physical Sciences	13,632.83	-0-	-0-	13,632.83
C 91	Operation of Plant	287,098.04	113,281.39	1,100.60	401,480.03
	Other	-0-	-0-	4,207.54	4,207.54
	Total	$ 3,823,151.67	$1,536,137.78	$ 393,401.17	$ 5,752,690.62
	Residential College				
DD 1	Orchard Hill Residential College	$ 3,495.82	$ 1,307.54	$ -0-	$ 4,803.36
DD 5	Southwest Residential College	20,662.27	5,815.95	10,307.25	36,785.47
	Total	$ 24,158.09	$ 7,123.49	$ 10,307.25	$ 41,588.83
	Provost				
E 11	Provost's Office	$ 195,611.18	$ 22,392.87	$ 82,488.89	$ 300,492.94
E 13	Four - College Program	-0-	1,823.27	-0-	1,823.27
E 15	Schedule Office	47,880.90	7,144.24	847.98	55,873.12
E 17	Graduate Assistants	1,338,012.22	-0-	20,909.12	1,358,921.34
E 18	Nantucket Research Center	5,932.25	607.97	-0-	6,540.22
E 19	Fine Arts Council	56.25	-0-	939.90	996.15
	Total	$ 1,587,492.80	$ 31,968.35	$ 105,185.89	$ 1,724,647.04
	Student Personnel				
F 21	Dean of Students	$ 51,814.38	$ 4,210.72	$ -0-	$ 56,025.10
F 22	Dean of Men	30,819.42	2,377.32	5,674.03	38,870.77
F 23	Dean of Women	-0-	75.74	-0-	75.74
F 24	Placement Office	113,360.03	9,707.26	7,812.22	130,879.51
F 26	Guidance Service	96,926.00	13,032.84	19,422.63	129,381.47
F 27	Associate Dean of Students	692,358.51	17,842.73	60,304.81	770,506.05
F 28	Testing and Counseling	26,593.66	2.67	1,377.55	27,973.88
F 29	Housing Office	28,092.31	1,411.03	2,027.55	31,530.89
F 30	Admissions and Registrar	262,284.50	37,107.74	2,333.92	301,726.16
F 42	Off-Campus Work Study	-0-	-0-	122,770.89	122,770.89
	Total	$ 1,302,248.81	$ 85,768.05	$ 221,723.60	$ 1,609,740.46

Schedule G (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	Library				
G 11	Library	$ 1,128,987.78	$ 155,178.45	$ 16,601.62	$ 1,300,767.85
	Total	$ 1,128,987.78	$ 155,178.45	$ 16,601.62	$ 1,300,767.85
	Audio Visual Center				
H 11	Audio Visual Center	$ 48,333.35	$ 16,105.79	$ 9,050.46	$ 73,489.60
	Total	$ 48,333.35	$ 16,105.79	$ 9,050.46	$ 73,489.60
	Medical School				
I 21	Medical School	$ 316,675.83	$ 64,592.94	$ 15,988.03	$ 397,256.80
I 41	Medical School Library	7,669.25	-0-	3,772.05	11,441.30
	Total	$ 324,345.08	$ 64,592.94	$ 19,760.08	$ 408,698.10
	College of Arts and Sciences				
J 11	Dean of Arts and Sciences	$ 230,231.82	$ 29,005.32	$ 2,395.25	$ 261,632.39
J 12	Economics	294,830.43	7,741.11	8,540.24	311,111.78
J 13	Bureau of Government Research	80,139.74	3,653.08	18,040.01	101,832.83
J 14	English	1,130,370.02	17,197.09	14,677.08	1,162,244.19
J 15	Slavic Languages and Literature	79,377.49	1,321.72	-0-	80,699.21
J 16	Germanic Languages and Literature	286,788.88	5,004.32	52.50	291,845.70
J 17	Government	405,140.32	7,427.87	11,889.60	424,457.79
J 18	History	593,951.38	9,607.52	26,816.08	630,374.98
J 19	Music	245,584.92	33,433.96	-0-	279,018.88
J 20	Philosophy	172,121.20	4,247.38	484.75	176,853.33
J 21	Psychology	507,121.45	83,340.02	150,847.95	741,309.42
J 22	Biochemistry	104,408.63	18,533.12	79,268.41	202,210.16
J 23	Romance Languages	640,893.69	10,158.73	6,920.69	657,973.11
J 24	Sociology and Anthropology	379,137.25	18,150.05	37,874.79	435,162.09
J 25	Speech	484,753.26	25,910.73	5,867.86	516,531.85
J 26	Art	287,561.83	15,799.72	5,636.63	308,998.18
J 27	Astronomy	-0-	48.07	-0-	48.07
J 32	Microbiology	151,676.15	24,153.03	124,572.32	300,401.50
J 33	Botany	302,354.00	50,262.88	70,261.82	422,878.70
J 34	Chemistry	574,346.45	140,179.92	228,444.42	942,970.79
J 35	Geography	10,290.21	2,248.00	877.80	13,416.01
J 36	Geology	239,753.24	23,339.84	31,772.14	294,865.22
J 37	Mathematics	856,126.70	17,138.16	52,498.53	925,763.39
J 38	Physics	679,990.42	106,035.50	432,294.41	1,218,320.33
J 39	Zoology	428,089.29	58,114.97	182,814.41	669,018.67
J 40	Statistics	43,731.22	2,890.40	-0-	46,621.62
J 41	Astronomy-Four College	225.00	961.83	-0-	1,186.83
J 42	Comparative Literature	43,015.40	1,532.44	192.00	44,739.84
J 43	Fine Arts Council	-0-	95.35	459.39	554.74
	Total	$ 9,252,010.39	$ 717,532.13	$ 1,493,499.08	$11,463,041.60

Schedule G (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	College of Agriculture (Instruction)				
K 01	Administration	$ 63,098.68	$ 3,591.73	$ 1,723.80	$ 68,414.21
K 03	Agricultural and Food Economics	131,562.52	2,945.28	648.93	135,156.73
K 04	Agricultural Engineering	75,315.47	2,945.65	-0-	78,261.12
K 07	Entomology	81,372.52	11,753.83	861.25	93,987.60
K 08	Research and Productive Service	8,049.16	45,437.36	-0-	53,486.52
K 09	Plant and Soil Sciences	220,476.92	26,485.61	2,594.32	249,556.85
K 10	Food Science and Technology	161,803.28	8,765.51	6,254.75	176,823.54
K 11	Forestry and Wildlife Management	144,378.89	9,530.40	5,694.14	159,603.43
K 12	Landscape Architecture	222,081.47	8,921.61	5,970.75	236,973.83
K 13	Environmental Sciences	3,180.57	22.75	1,526.33	4,729.65
K 15	Veterinary and Animal Sciences	303,026.21	67,990.69	844.58	371,861.48
K 16	Plant Pathology	21,723.40	1,804.65	-0-	23,528.05
K 17	Restaurant and Hotel Administration	28,268.61	1,210.42	-0-	29,479.03
	Sub-Total	$ 1,464,337.70	$ 191,405.49	$ 26,118.85	$ 1,681,862.04
	(Extension Service)				
K 21	Administration	$ 74,513.13	$ 2,051.92	$ 474,801.15	$ 551,366.20
K 23	Agricultural and Food Economics	86,156.57	1,277.25	38,874.39	126,308.21
K 24	Agricultural Engineering	30,549.51	1,112.66	14,615.48	46,277.65
K 28	Cranberry Station	34,443.47	156.51	12,528.00	47,127.98
K 29	Entomology	9,179.39	349.09	24,250.98	33,779.46
K 30	Plant and Soil Sciences	73,178.44	849.46	17,071.19	91,099.09
K 31	Food Science and Technology	38,332.38	781.60	16,175.27	55,289.25
K 32	Forestry and Wildlife Management	19,368.04	2,093.89	17,894.20	39,356.13
K 33	4 - H	31,635.96	1,244.89	40,803.88	73,684.73
K 34	Home Economics Extension	-0-	-0-	12,952.50	12,952.50
K 35	Landscape Architecture	-0-	173.73	3,800.00	3,973.73
K 38	Veterinary and Animal Sciences	49,637.58	1,494.49	56,355.32	107,487.39
K 40	Environmental Sciences	145,225.91	1,106.58	48,427.80	194,760.29
K 41	Plant Pathology	19,069.46	234.03	3,616.33	22,919.82
K 42	Restaurant and Hotel Administration	2,396.80	12.90	8,932.94	11,342.64
	Sub-Total	$ 613,686.64	$ 12,939.00	$ 791,099.43	$ 1,417,725.07
	(Research)				
K 51	Administration	$ 24,506.25	$ 1,627.44	$ 21,422.82	$ 47,556.51
K 52	Research	2,713.76	-0-	-0-	2,713.76
K 53	Agricultural and Food Economics	48,631.05	967.15	75,631.36	125,229.56
K 54	Agricultural Engineering	56,727.43	1,702.83	43,197.76	101,628.02
K 57	Environmental Sciences (Amherst)	68,220.86	932.16	67,539.49	136,692.51
K 60	Cranberry Station	85,454.28	8,062.97	60,051.69	153,568.94
K 61	Research	-0-	-0-	333.30	333.30
K 62	Entomology	41,156.46	575.12	26,246.30	67,977.88
K 63	Research and Production Service	48,123.93	398.20	47.49	48,569.62
K 64	Plant and Soil Sciences	145,163.82	3,410.72	110,517.40	259,091.94
K 65	Food Science and Technology	104,938.25	521.47	129,820.83	235,280.55
K 66	Forestry and Wildlife Management	116,645.30	963.44	77,650.58	195,259.32
K 68	Landscape Architecture	-0-	-0-	1,999.05	1,999.05
K 71	Veterinary and Animal Sciences	212,557.03	15,595.69	140,988.83	369,141.55
K 73	Environmental Sciences (Waltham)	118,705.78	18,299.18	72,571.99	209,576.95
K 75	Natural Resources Projects #3-35-R (Matching Funds)	13,282.35	20.00	24,162.31	37,464.66
K 76	Plant Pathology	44,387.07	634.25	30,168.01	75,189.33
	Sub-Total	$ 1,131,213.62	$ 53,710.62	$ 882,349.21	$ 2,067,273.45

Schedule G (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	School of Business Administration				
L 11	Dean of Business Administration	$ 135,992.94	$ 27,330.82	$ 1,503.60	$ 164,827.36
L 12	Accounting	181,001.20	1,509.71	3,389.25	185,900.16
L 13	General Business and Finance	239,627.04	1,062.37	5,558.25	246,247.66
L 14	Management	208,522.19	1,073.34	9,447.36	219,042.89
L 15	Marketing	115,586.13	1,480.73	4,012.10	121,078.96
L 16	Center for Business & Economic Research	38,827.06	1,410.08	1,284.30	41,521.44
	Total	$ 919,556.56	$ 33,867.05	$ 25,194.86	$ 978,618.47
	School of Engineering				
M 11	Dean of Engineering	$ 136,452.39	$ 28,389.78	$ 28,526.90	$ 193,369.07
M 12	Chemical Engineering	197,979.71	28,406.20	100,233.33	326,619.24
M 13	Civil Engineering	330,864.48	15,990.62	153,367.05	500,222.15
M 14	Mechanical and Aerospace Engineering	413,245.72	39,148.66	88,963.60	541,357.98
M 15	Electrical Engineering	301,448.20	35,565.96	48,204.41	385,218.57
M 16	Industrial Engineering	121,477.68	6,718.19	4,018.47	132,214.34
M 17	Basic Engineering	52,867.10	1,552.74	1,532.22	55,952.06
M 18	State Technical Services Act (Matching Funds)	67.50	104.00	10,812.24	10,983.74
	Total	$ 1,554,402.78	$ 155,876.15	$ 435,658.22	$ 2,145,937.15
	School of Home Economics				
N 11	Dean of Home Economics	$ 84,349.51	$ 4,027.84	$ 10,208.57	$ 98,585.92
N 12	Home Economics Extension	47,912.79	1,032.50	19,335.84	68,281.13
N 13	Nutrition and Food	85,270.97	7,627.37	1,415.06	94,313.40
N 14	Home Economics Education	27,945.65	1,470.45	95.85	29,511.95
N 15	Human Development	62,380.54	1,317.05	1,832.18	65,529.77
N 16	Management and Family Economics	9,274.70	268.33	-0-	9,543.03
N 17	Textiles, Clothing and Environmental Arts	83,543.10	1,762.98	(75.00)	85,231.08
	Total	$ 400,677.26	$ 17,506.52	$ 32,812.50	$ 450,996.28
	School of Nursing				
O 11	School of Nursing	$ 349,858.16	$ 27,531.98	$ 32,491.79	$ 409,881.93
	Total	$ 349,858.16	$ 27,531.98	$ 32,491.79	$ 409,881.93
	School of Physical Education				
P 11	Dean of Physical Education	$ 188,283.64	$ 35,923.17	$ -0-	$ 224,206.81
P 12	Physical Education for Men	218,488.26	11,004.55	1,035.20	230,528.01
P 13	Physical Education for Women	230,632.54	10,680.41	678.62	241,991.57
P 14	Athletic's and Intramurals	250,764.48	6,928.57	565,508.62	823,201.67
P 15	Recreation	43,699.60	1,981.70	-0-	45,681.30
	Total	$ 931,868.52	$ 66,518.40	$ 567,222.44	$ 1,565,609.36

Schedule G (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	School of Education				
Q 11	School of Education	$ 920,812.38	$ 95,931.90	$ 601,245.43	$ 1,617,989.71
	Total	$ 920,812.38	$ 95,931.90	$ 601,245.43	$ 1,617,989.71
	Division of Military Science				
RA 1	Air ROTC	$ 12,099.00	$ 999.43	$ -0-	$ 13,098.43
RB 1	Army ROTC	10,127.35	1,530.44	-0-	11,657.79
	Total	$ 22,226.35	$ 2,529.87	$ -0-	$ 24,756.22
	Graduate School				
S 11	Graduate School Office	$ 123,067.41	$ 13,566.78	$ 132,909.34	$ 269,543.53
S 12	Computer Science	67,917.97	49,803.04	16,459.74	134,180.75
S 13	Research Computing Center	41,669.17	53,152.22	182,069.34	276,890.73
S 14	Water Resources Research Center	8,819.65	.28	163,980.90	172,800.83
S 15	University of Massachusetts Press	380.64	20.00	46,681.33	47,081.97
S 16	Office of Research Services	-0-	(7.22)	66,301.62	66,294.40
S 17	Polymer Science and Engineering	67,905.93	2,910.71	98,158.32	168,974.96
S 18	Marine Sciences Program	58.84	724.57	-0-	783.41
S 19	Graduate Assistants Faculty Replacement	295,486.95	-0-	965.30	296,452.25
S 20	Fellowship Section	66,137.28	-0-	907,050.33	973,187.61
	Total	$ 671,443.84	$ 120,170.38	$ 1,614,576.22	$ 2,406,190.44
	Labor Relations and Research Center				
T 11	Labor Center General Fund	$ 96,831.63	$ 16,591.16	$ 4,772.59	$ 118,195.38
T 12	Graduate Program	-0-	1,114.06	-0-	1,114.06
T 13	Graduate Assistants	37,697.00	-0-	-0-	37,697.00
T 14	Faculty Research	2,374.90	1,107.79	-0-	3,482.69
T 15	Federal Research	-0-	53.40	61,687.89	61,741.29
T 16	Labor Education Extension	7,002.50	995.22	-0-	7,997.72
T 17	Library and Publications	5,059.37	2,063.33	-0-	7,122.70
	Total	$ 148,965.40	$ 21,924.96	$ 66,460.48	$ 237,350.84
	Summer School				
U 11	Summer School	$ 623,200.08	$ 32.43	$ 3,849.38	$ 627,081.89
	Total	$ 623,200.08	$ 32.43	$ 3,849.38	$ 627,081.89
	Student Health Service (Trust Fund)				
V 11	Student Health Service (Trust Fund)	$ -0-	$ -0-	$ 856,751.23	$ 856,751.23
	Total	$ -0-	$ -0-	$ 856,751.23	$ 856,751.23

Schedule G (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	Public Health				
W 11	Public Health	$ 111,941.59	$ 7,840.57	$ 14,649.60	$ 134,431.76
	Total	$ 111,941.59	$ 7,840.57	$ 14,649.60	$ 134,431.76
	Operation of Plant				
X 01	Academic Minor Work Authority	$ -0-	$ 18.48	$ -0-	$ 18.48
X 02	Academic Force Projects	-0-	226.33	-0-	226.33
X 03	Academic Contract Projects	-0-	9,292.65	-0-	9,292.65
X 04	Maintenance Contract Services	1,558.00	29,001.94	-0-	30,559.94
X 05	Maintenance Force Projects	-0-	(1,969.74)	-0-	(1,969.74)
X 06	Maintenance Contract Projects	1,800.00	78,179.09	19.20	79,998.29
X 12	Materials and Supplies (Maint. & Repairs)	-0-	374,757.81	-0-	374,757.81
X 13	Materials and Supplies (Automotive)	-0-	33.00	-0-	33.00
X 14	Materials and Supplies (Custodial)	-0-	81,738.61	-0-	81,738.61
X 15	College Supply	-0-	107,284.44	-0-	107,284.44
X 16	Coal and Freight	(85.55)	567,805.69	-0-	567,720.14
X 20	Administrative Division	-0-	17,382.00	-0-	17,382.00
X 21	Division Office	105,067.92	35,267.93	50,959.68	191,295.53
X 22	Administration Section	26,477.00	65.42	16,493.22	43,035.64
X 23	Personnel/Employee Relations Section	13,567.56	3,183.21	11,119.37	27,870.14
X 24	Comptroller Section	146,364.32	109.70	48,751.45	195,225.47
X 25	Grounds	21,971.48	1,093.65	4,585.22	27,650.35
X 26	Motor Pool	-0-	-0-	284.30	284.30
X 32	Planning Section	13,341.10	14.73	967.20	14,323.03
X 33	Nantucket Research Center	6,523.12	16.80	55.52	6,595.44
X 40	Design Engineering Division	-0-	542.28	-0-	542.28
X 42	Landscape Architecture Section	21,856.09	18,273.65	-0-	40,129.74
X 43	Mechanical Engineering Section	51,031.36	746.20	3,974.43	55,751.99
X 44	Electrical Engineering Section	19,228.44	38.20	11,117.39	30,384.03
X 46	Civil Engineering and Drafting Section	9,993.67	560.77	35,590.47	46,144.91
X 47	Specifications Section	-0-	36.50	8,605.55	8,642.05
X 50	Project Engineering Division	-0-	27.27	-0-	27.27
X 51	Division Office	12,224.72	168.36	4,216.00	16,609.08
X 52	Project Section	26,418.53	-0-	17,550.45	43,968.98
X 60	Amherst Maintenance Division	-0-	(711.87)	4,596.70	3,884.83
X 61	Division Office	21,795.91	277.35	4,349.00	26,422.26
X 62	Technical Staff Section	21,982.09	287.54	26,818.47	49,088.10
X 63	Work Control Section	46,449.36	482.54	36,309.81	83,241.71
X 64	Central Stores Section	56,449.21	3,489.14	13,291.65	73,230.00
X 65	Transportation Section	55,044.37	14,654.59	24,553.22	94,252.18
X 70	Project Section	-0-	183.64	7,955.87	8,139.51
X 71	Plumbing Shop	102,879.98	1,422.45	5,286.89	109,589.32
X 72	Carpentry Shop	140,362.23	384.82	43,546.42	184,293.47
X 73	Masonry Shop	36,341.21	1,220.31	9,824.19	47,385.71
X 74	Painting Shop	154,639.21	1,505.95	70,967.84	227,113.00
X 75	Electrical Shop	116,015.62	425.06	20,879.36	137,320.04
X 76	Operations Section	200,053.63	2,351.61	133,206.18	335,611.42
X 77	Grounds and Services Section	519,565.97	20,592.53	86,508.58	626,667.08
X 78	Custodial Section	857,790.20	1,031.30	332,067.85	1,190,889.35
X 79	Power Plant	168,477.06	613,904.34	-0-	782,381.40

Schedule G. (Continued)

1969 Fiscal Year Expenditure Report

by Budget Divisions

Dept. Code		State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
	Operation of Plant (continued)				
X 90	Belchertown Farm	$ -0-	$ 253.03	$ -0-	$ 253.03
X 91	South Deerfield Farm	-0-	18.00	-0-	18.00
X 92	Nantucket Research Center	-0-	2,584.13	-0-	2,584.13
X 93	Wareham Cranberry Station	-0-	8,179.11	-0-	8,179.11
X 94	Waltham Field Station	-0-	17,447.44	-0-	17,447.44
X 95	Worcester Medical School	-0-	150.00	-0-	150.00
X 96	Univ. of Mass./Boston	-0-	135.70	-0-	135.70
X 99	Dormitory Rental	-0-	545,250.00	-0-	545,250.00
	Total	$ 2,975,183.81	$ 2,559,413.68	$ 1,034,451.48	$ 6,569,048.97
	Boarding Halls				
Y 11	Expense	$ -0-	$ -0-	$ 2,282,134.23	$ 2,282,134.23
Y 12	Materials & Supplies	-0-	-0-	2,178,461.27	2,178,461.27
Y 13	Dining Commons Work Study	-0-	-0-	4,371.90	4,371.90
	Total	$ -0-	$ -0-	$ 4,464,967.40	$ 4,464,967.40
	Student Union				
Z 11	General Fund	$ -0-	$ -0-	$ 324,368.88	$ 324,368.88
Z 12	Food Service Fund	-0-	-0-	288,101.13	288,101.13
Z 13	University Store Fund	-0-	-0-	239,521.10	239,521.10
Z 14	Recognized Student Organizations	-0-	-0-	18,290.38	18,290.38
Z 16	Univ. of Mass./Boston Bookstore	-0-	-0-	21,921.21	21,921.21
Z 17	Student Automatic Service Trust Fund	-0-	-0-	15,479.15	15,479.15
Z 18	Work Study	-0-	-0-	16,887.76	16,887.76
	Total	$ -0-	$ -0-	$ 924,569.61	$ 924,569.61
	Control Service				
K 82	Mastitis Control	$ 40,088.50	$ 1,542.79	$ -0-	$ 41,631.29
K 84	Feed, Seed, Fertilizer & Dairy Law	125,971.93	8,385.20	-0-	134,357.13
K 85	Shade Tree Laboratories	78,320.78	4,349.74	206.25	82,876.77
K 86	Pullorum Control	99,376.18	12,537.70	-0-	111,913.88
K 87	M G Control	3,806.40	25.00	-0-	3,831.40
	Total	$ 347,563.79	$ 26,840.43	$ 206.25	$ 374,610.47
	Miscellaneous				
500	Reserve and Undistributed	$ 9,180.00	$ 88,963.58	$ -0-	$ 98,143.58
	Total	$ 9,180.00	$ 88,963.58	$ -0-	$ 98,143.58
	Grand Totals	$32,689,593.08	$ 6,582,020.09	$14,863,861.35	$54,135,474.52

*Expenditures, other than for Salaries and Wages, not distributed by all budget divisions and departments.

Schedule H

Boarding Halls

Statement of Receipts, Disbursements and Balances

Balance, July 1, 1968		$ 85,548.25	
Receipts:			
Income	$5,125,124.62		
Less: Student Refunds	167,411.99		
Transfer to U.M. Bldg. Authority Proj. Three, Five, Seven, and Nine	604,495.61		
Net Receipts		$4,353,217.02	
			$4,438,765.27
Disbursements:			
Salaries and Wages	$1,964,605.76		
Food Purchases	1,933,747.91		
Clothing	386.40		
Housekeeping Supplies	104,015.68		
Heat and Other Plant Operations	7,536.18		
Travel	599.51		
Advertising and Printing	1,925.50		
Repairs	19,469.82		
Office and Administration	11,536.99		
Equipment	4,148.49		
Rental	7,004.33		
Commonwealth of Massachusetts	245,000.00		
Capital Outlay	6,386.76		
Total Disbursements			$4,306,363.33
Balance, June 30, 1969			$ 132,401.94

Schedule I-1

Athletic Trust Fund

Statement of Receipts, Disbursements and Balances

Balance, July 1, 1968			$208,060.55	
Receipts:				
Student Fees	$446,344.25			
Other Receipts	123,917.70			
		$570,261.95		
Less:				
Refund of Student Fees	$ 6,013.75			
Transfer to Special Reserve	90,309.37			
Transfer to U.M. Bldg. Authority Project #4 (Stadium)	80,000.00			
Transfer to establish George H. Barber Scholarship Fund	26,000.00			
		$202,323.12		
Net Receipts			$367,938.83	
Total Available				$575,999.38
Disbursements:				
Intercollegiate Athletics		$171,652.41		
Intramural and Other Programs		52,755.64		
Athletic Injury Care		12,655.88		
Travel		18,417.71		
Cheerleaders		3,132.03		
Operating Expenditures		106,844.71		
Contingencies		2,000.00		
Capital Outlay		5,607.55		
Scholarships		172,219.89		
Publicity		5,481.76		
Total Disbursements				$550,767.58
Balance, June 30, 1969				$ 25,231.80

Schedule I-2

Athletic Reserve Account

Balance, July 1, 1968	$ 31,817.54
Interest on Savings Account	1,489.94
Balance, June 30, 1969	$ 33,307.48

Athletic Reserve - Special

Balance, July 1, 1968	$102,527.78
Transfers	140,309.37
Balance, June 30, 1969	$242,837.15

Schedule J

Student Health Service

Statement of Receipts, Disbursements and Balances

Balance, July 1, 1968		$ 90,371.59	
Receipts:			
Income	$832,842.61		
Less: Student Refunds	10,868.00		
Net Receipts		$821,974.61	
			$912,346.20
Disbursements:			
Salaries and Wages		$712,534.47	
Food		5,387.65	
Clothing		953.88	
Housekeeping Supplies		14,893.37	
Laboratory and Medical Supplies		58,756.95	
Travel		5,543.73	
Printing		3,644.83	
Repairs and Replacements		2,278.17	
Office and Administrative Expenses		23,248.10	
Equipment		11,703.52	
Rental		6,037.89	
Total Disbursements			$844,982.56
Balance, June 30, 1969			$ 67,363.64

Schedule K-1

Student Union - University Store - Amherst

Income Statement For The Fiscal Year Ended
June 30, 1969

Sales		
Books	$ 1,224,328.05	
Supplies	597,486.59	
Lobby	138,729.92	
		$ 1,960,544.56
Cost of Goods Sold		
Beginning Inventory	550,915.67	
Purchases	1,542,422.94	
Freight In	23,746.69	
	2,117,085.30	
Less: Purchase Discounts	5,828.44	
	2,111,256.86	
Less: Ending Inventory	558,749.99	
		$ 1,552,506.87
Gross Profit on Sales		408,037.69
Operating Expenses		
Payroll - Regular	216,145.41	
Payroll - Student	14,204.59	
Employees' Group Insurance	2,486.01	
Insurance	7,782.28	
Supplies	1,719.44	
Telephone and Telegraph	1,719.40	
Postage	1,981.31	
Advertising	677.50	
Travel and Education	1,128.15	
Doubtful Accounts	48.67	
Repairs and Maintenance	1,969.16	
Lobby Counter Expenses	20,332.70	
Cash Shortages	940.27	
Miscellaneous	14,462.24	
		$ 285,597.13
Net Income (Loss) from Operations		122,440.56
Other Income		
Laboratory Fees	9,735.94	
Post Office	5,041.63	
Cash Overages	38.94	
Miscellaneous	1,411.85	
		16,228.36
Other Expenses		
Transfer to General Fund	75,000.00	
Loss on Disposal of Fixed Assets	43.90	
		$ 75,043.90
Net Income (Loss) for Period		$ 63,625.02

Schedule K-1a

Student Union - University Store - Boston

Income Statement For The Fiscal Year Ended
June 30, 1969

Sales		
Books	$ 213,417.58	
Supplies	36,614.15	
		$ 250,031.73
Cost of Goods Sold		
Beginning Inventory	64,279.00	
Purchases	248,541.24	
Freight In	3,851.36	
	316,671.60	
Less: Purchase Discounts	-0-	
	$ 316,671.60	
Less: Ending Inventory	78,197.00	
		$ 238,474.60
Gross Profit on Sales		$ 11,557.13
Operating Expenses		
Payroll - Regular	$ 16,697.25	
Payroll - Student	10,764.54	
Outside Labor	1,232.39	
Employees' Group Insurance	265.85	
Supplies	708.84	
Telephone & Telegraph	214.06	
Postage	271.15	
General Transportation	97.82	
Advertising	35.70	
Travel and Education	267.77	
Doubtful Accounts	.21	
Repairs and Maintenance	1,192.07	
Cash Shortages	411.70	
Miscellaneous	4,182.79	
		$ 36,342.14
Net Income (Loss) from Operations		$ (24,785.01)
Other Income		
Laboratory Fees	2,467.30	
Xerox and Duplicating	1,456.90	
Cash Overages	397.36	
Miscellaneous	132.91	
		$ 4,454.47
Other Expenses		
Xerox Service Expenses	2,579.33	
		$ 2,579.33
Net Income (Loss) for Period		$ (22,909.87)

Schedule K-2

Student Union - University Store - Amherst

Balance Sheet As Of
June 30, 1969

ASSETS

Current Assets:		
Cash in Bank		$ 37,306.94
Cash in Transit		1,378.52
Cash on Hand		6,000.00
Accounts Receivable		28,678.99
Accounts Receivable - Book Vendors		235,069.86
Accounts Receivable - Supply Vendors		3,673.29
Inventory - Books		394,422.00
Inventory - Supplies		162,313.00
Inventory - Lobby Counter		2,014.99
Prepaid Expenses		561.34
Total Current Assets		$ 871,418.93
Fixed Assets:		
Office Furniture and Fixtures	$ 15,452.06	
Less: Accumulated Depreciation	7,528.00	
		$ 7,924.06
Machinery and Equipment	24,116.40	
Less: Accumulated Depreciation	8,473.24	
		$ 15,643.16
Automobiles and Trucks	1,974.00	
Less: Accumulated Depreciation	-0-	
		$ 1,974.00
Investment in Boston Campus Store		$ 120,063.36
Total Assets		$1,017,023.51

LIABILITIES AND CAPITAL

Current Liabilities:	
Accounts Payable	$ 163,111.23
Accrued Payroll	14,235.12
Accrued Taxes - Mass. Sales Tax	398.85
Laboratory Fees	44,224.92
Total Current Liabilities	$ 221,970.12
Capital:	
Retained Earnings	$ 795,053.39
Total Liabilities and Capital	$1,017,023.51

RETAINED EARNINGS

Balance July 1, 1968	$ 731,428.37
Net Income (Loss) for Year	63,625.02
Balance June 30, 1969	$ 795,053.39

Schedule K-2a

Student Union - University Store - Boston

Balance Sheet As Of
June 30, 1969

ASSETS

Current Assets:		
Cash in Bank		$ 19,473.76
Cash on Hand		1,000.00
Accounts Receivable		8,380.63
Accounts Receivable - Book Vendors		41,883.93
Accounts Receivable - Supply Vendors		861.49
Inventory - Books		66,785.00
Inventory - Supplies		11,412.00
Prepaid Expenses		315.00
Total Current Assets		$ 150,111.81
Fixed Assets:		
Office Furniture and Fixtures	$ 9,365.36	
Less: Accumulated Depreciation	1,279.05	
		$ 8,086.31
Machinery and Equipment	3,475.06	
Less: Accumulated Depreciation	140.83	
		$ 3,334.23
Automobiles and Trucks	$ -0-	
Less: Accumulated Depreciation	-0-	-0-
Total Assets		$ 161,532.35

LIABILITIES AND CAPITAL

Current Liabilities	
Accounts Payable	$ 20,131.18
Accrued Payroll	2,065.88
Accrued Taxes - Mass. Sales Tax	19.37
Laboratory Fees	8,763.01
Total Current Liabilities	$ 30,979.44
Long-term Liabilities:	
University Store - Amherst Campus	$ 120,063.36
Total Long-term Liabilities	$ 120,063.36
Capital:	
Retained Earnings	$ 10,489.55
Total Liabilities and Capital	$ 161,532.35

RETAINED EARNINGS

Balance July 1, 1968	$ 33,399.42
Net Income (Loss) for the Year	(22,909.87)
Balance June 30, 1969	$ 10,489.55

Schedule K-3

Student Union - Food Service

Income Statement For The Fiscal Year Ended
June 30, 1969

SALES		
Hatch	$ 555,343.25	
Commonwealth	44,859.42	
Catering	63,874.00	
		$ 664,076.67
Cost of Goods Sold		
Beginning Inventory	$ 6,748.58	
Food Purchases	280,260.98	
Freight In	8.64	
	287,018.20	
Less: Purchase Discounts	836.40	
	286,181.80	
Less: Ending Inventory	9,188.70	
		$ 276,993.10
Gross Profit on Sales		$ 387,083.57
Operating Expenses		
Payroll - Regular	$ 279,954.94	
Payroll - Student	27,798.80	
Employees' Group Insurance	5,866.71	
Supplies	30,075.41	
Telephone and Telegraph	808.30	
Postage	151.27	
Advertising	397.03	
Travel and Education	261.81	
Doubtful Accounts	.95	
Uniforms	47.22	
Linen	28.00	
Laundry	6,836.93	
China and Silver	3,290.65	
Repairs and Maintenance	2,282.10	
Heat and Utilities	277.82	
Cash Shortages	305.38	
Miscellaneous	38.30	
		$ 358,421.62
Net Income (Loss) from Operations		$ 28,661.95
Other Income		
Juke Box	$ 1,447.15	
Cash Overages	317.78	
Miscellaneous	2,776.36	
		$ 4,541.29
Other Expenses		
Transfer to General Fund	$ 50,000.00	
Loss on Disposal of Fixed Assets	3,431.21	
		$ 53,431.21
Net Income (Loss) for Period		$ (20,227.97)

Schedule K-4

Student Union - Food Service

Balance Sheet As Of
June 30, 1969

ASSETS		
Current Assets:		
Cash in Bank		$ 29,759.57
Cash in Transit		4,186.67
Cash on Hand		1,650.00
Accounts Receivable		15,975.16
Inventory - Food		9,188.70
Total Current Assets		$ 60,760.10
Fixed Assets:		
Office Furniture and Fixtures	$ 2,396.73	
Less: Accumulated Depreciation	1,227.01	
		$ 1,169.72
Machinery and Equipment	$ 54,085.39	
Less: Accumulated Depreciation	17,934.89	36,150.50
Total Assets		$ 98,080.32
LIABILITIES AND CAPITAL		
Current Liabilities:		
Accounts Payable		$ 12,956.89
Accrued Payroll		22,680.01
Accrued Taxes - Mass. Old Age Tax		583.07
Total Current Liabilities		$ 36,219.97
Capital:		
Retained Earnings		$ 61,860.35
Total Liabilities and Capital		$ 98,080.32

RETAINED EARNINGS

Balance July 1, 1968	$ 80,861.84
Accounts Receivable Adjustments for the year 1967	(60.83)
	$ 80,801.01
Depreciation Adjustment for Year 1968	1,287.31
	$ 82,088.32
Net Income (Loss) for the Year	(20,227.97)
Balance June 30, 1969	$ 61,860.35

Schedule K-5

Student Union - General Fund

Income Statement For The Fiscal Year Ended
June 30, 1969

INCOME		
Transfer from University Store		$ 75,000.00
Transfer from Student Union Food Service		50,000.00
Student Senate Appropriation		20,000.00
Conference Services		185,811.46
Games Area		11,662.32
Rental and Custodial Fees		11,012.28
Ticket Office		12,569.38
Duplicating and Printing Services		9,288.82
Check Cashing Service Fees		9,531.45
Miscellaneous		5,694.57
Total Income		$ 390,570.28
EXPENSES		
Administration	$ 155,415.62	
Maintenance	87,333.44	
Student Activities	79,224.31	
Conference Services	187,297.46	
Games Area	11,750.32	
Ticket Office	8,121.92	
Duplicating & Printing Expenses	9,377.97	
Total Expenses		$ 538,521.04
Net Income (Loss) for the Year		($ 147,950.76)

Schedule K-6

Student Union - General Fund

Balance Sheet As Of
June 30, 1969

ASSETS		
Current Assets:		
Cash in Bank		$ -0-
Cash in Transit		13,186.79
Cash on Hand		10,050.00
Accounts Receivable		10,845.20
Prepaid Expenses		430.50
Total Current Assets		$ 34,512.49
Fixed Assets:		
Office Furniture and Fixtures	$ 45,518.40	
Less: Accumulated Depreciation	14,397.39	
		31,121.01
Machinery and Equipment	$ 51,331,76	
Less: Accumulated Depreciation	14,204.49	
		37,127.27
Total Assets		$ 102,760.77
LIABILITIES AND CAPITAL		
Current Liabilities:		
Accounts Payable		$ 14,063.48
Accrued Payroll		28,286.72
Key Deposits		111.00
Conferences - Advance Receipts		159.85
Conferences - Revolving Accounts		10,246.69
Total Current Liabilities		$ 52,867.74
Capital:		
Retained Earnings		$ 49,893.03
Total Liabilities and Capital		$ 102 760.77

RETAINED EARNINGS

Balance July 1, 1968	$ 197,843.79
Net Income (Loss) for the Year	(147,950.76)
Balance June 30, 1969	$ 49,893.03

Schedule K-7

Student Union Reserve Fund

Balance Sheet - June 30, 1969

Cash in Bank	$ 77,161.65	Reserves for Equipment Replacement:	
		General Fund	$ 5,106.23
		Food Service	27,430.59
		University Store	15,682.30
		Interest	28,942.53
	$ 77,161.65		$ 77,161.65

Student Union Building Amortization Fund

Balance July 1, 1968		$ 240,838.50
Fees	$ 504,945.22	
Less: Refunds	6,574.00	
		$ 498,371.22
Funds Available		$ 739,209.72
Reimbursement to Commonwealth		120,000.00
Balance June 30, 1969		$ 619,209.72

Schedule K-8

Recognized Student Organizations

Statement of Receipts, Disbursements and Balances
Year Ended June 30, 1969

Balance July 1, 1968			
Amherst Savings Bank		$ 81,323.55	
First National Bank of Amherst		86,621.61	
Total			$ 167,945.16
Receipts:			
Amherst Student Fees	$ 392,409.36		
Less: Refunds	5,315.72		
		$ 397,725.08	
Cash Receipts		309,074.19	
Inter-Activity		1,076,008.26	
			$1,782,807.53
Total			$1,950,752.69
Disbursements:			
Cash		$ 726,010.15	
Inter-Activity		1,076,008.26	
			$1,802,018.41
Balance, June 30, 1969			
Amherst Savings Bank		$ 85,466.59	
First National Bank of Amherst		63,267.69	
			$ 148,734.28
Total			$1,950,752.69

Schedule L

Inventory of Land

Location	Acreage	Assessed Valuation June 30, 1969
Amherst	751.1	$2,723,160.00
Hadley	446.4	284,380.00
Amherst	46.0	500.00
Pelham	.5	100.00
Pelham	1,196.0	20,000.00
Belchertown	218.0	17,210.00
Belchertown	4.0	100.00
Sunderland	726.2	17,600.00
Leverett	28.8	270.00
East Wareham	28.6	12,750.00
Waltham	58.8	92,450.00
South Deerfield	358.1	21,020.00
Nantucket Island	107.0	13,000.00
Worcester	124.5	170,700.00
Boston	.4	315,900.00
TOTALS	4,094.4	$3,689,140.00

Schedule L-1

Inventory of Buildings and Structures

Bldg. No.	Constructed	Location	Description	Assessed Valuation June 30, 1969
5	1940	Amherst	Butterfield Hall (Dormitory)	$ 232,598.00
6	1947	Amherst	Chadbourne House (Dormitory)	260,000.00
7	1948	Amherst	Berkshire House (Administration)	165,266.00
8	1948	Amherst	Hampshire House (Administration)	165,266.00
9	1948	Amherst	Middlesex House (Administration)	163,800.00
24	1946	Amherst	Greenough House (Dormitory)	260,000.00
28	1940	Amherst	Lewis House (Dormitory)	177,019.00
29	1948	Amherst	Mills House (Dormitory)	375,000.00
30	1935	Amherst	Thatcher House (Dormitory)	193,950.00
38	1869	Amherst	Blaisdell House	4,000.00
48	1947	Amherst	Brooder House	100.00
49	1947	Amherst	Brooder House	100.00
50	1947	Amherst	Brooder House	100.00
51	1947	Amherst	Brooder House	100.00
52	1914	Amherst	Milker's Bungalow House	2,100.00
53	1910	Amherst	Harlow House	2,550.00
54	1922	Amherst	Hilton House	9,400.00
55	1922	Amherst	Hilton Garage	300.00
57	1884	Amherst	President's House	19,000.00
58	1955	Amherst	Montague House	8,000.00
59	1939	Amherst	Tillson Garage	384.00
60	1926	Amherst	Tillson House	6,714.00
61	1867	Amherst	Homestead House	14,800.00
62	1867	Amherst	Stockbridge House	9,100.00
63	1911	Amherst	Waiting Station (Shelter)	500.00
64	1930	Amherst	Scale House	250.00
65	1961	Amherst	Kiln	2,500.00
66	1918	Sunderland	Shed	1,500.00
67	1918	Sunderland	House	3,000.00
68	1961	Pelham	Radio Station	1,500.00
70	1929	Amherst	Garage	2,500.00
71	1918	Amherst	Grounds Tool Shed & Garage	245.00
72	1953	Amherst	Animal Isolation Laboratory	98,500.00
73	1957	Amherst	Thayer Laboratory	50,000.00
74	1911	Amherst	Apiary Laboratory	3,000.00
76	1959	Amherst	Power Supply Facility	3,432,764.00
77	1937	Amherst	Bowditch Lodge	50,000.00
79	1950	Amherst	Police Station Garage	63,800.00
80	1885	Amherst	Chapel - Classrooms	76,288.00
82	1959	Amherst	Goessmann Laboratory & Classrooms	2,896,900.00
83	1907	Amherst	Clark Hall Laboratory & Classrooms	67,400.00
84	1907		Greenhouse	
85	1953	Amherst	Worcester Dining Commons	985,300.00
86	1961	Amherst	Worcester Dining Commons (Addition)	504,475.00
87	1903	Amherst	Draper Hall Classrooms	296,529.00
88	1947		Draper Hall - Annex (Storage)	
89	1889	Amherst	East Experiment Station Laboratory	14,000.00
90	1949	Amherst	Shade Tree Laboratory	23,400.00
91	1949	Amherst	Gunness Laboratory	374,500.00
92	1950	Amherst	Engineering Classrooms	1,120,753.00
93	1949	Amherst	Engineering Annex - Classrooms	118,500.00
94	1915	Amherst	Engineering Shops - Labs. & Classrooms	28,550.00
95	1933	Amherst	Farley 4-H Lodge	50,000.00
96	1955	Amherst	Durfee Greenhouses	69,684.00
97	1910	Amherst	Fernald Hall - Laboratory	80,000.00
98	1910	Amherst	Fernald Hall Greenhouse	825.00
99	1911	Amherst	Fisher Cold Storage	24,616.00

Schedule L-1 (Continued)

Inventory of Building and Structures

Bldg. No.	Constructed	Location	Description	Assessed Valuation June 30, 1969
100	1912	Amherst	Flint Laboratory	$ 210,723.00
101	1930	Amherst	Chenoweth Laboratory	69,966.00
103	1867	Amherst	Forestry - Classrooms and Laboratory	2,590.00
104	1909	Amherst	French Hall - Classrooms and Labs.	74,356.00
105	1908	Amherst	French Hall Greenhouse	25,500.00
106	1915	Amherst	Hospitals	34,300.00
107	1960	Amherst	Bartlett - Classrooms and Lab.	2,181,125.00
109	1931	Amherst	Storage - Lumber	2,150.00
110	1923	Amherst	Tillson Storage	1,574.00
111	1957	Amherst	Machmer Hall - Classrooms	967,578.00
112	1947	Amherst	Marshall Annex - Classrooms	68,459.00
113	1915		Marshall Hall - Classrooms and Labs.	
115	1920	Amherst	Memorial Hall - Classrooms	107,425.00
116	1898	Amherst	Munson Hall - Administration	70,127.00
117	1899		Munson Annex - Administration	
118	1891	Amherst	Hatch - Classrooms and Labs.	19,374.00
120	1950	Amherst	Paige Laboratory	487,500.00
121	1931	Amherst	Hicks - Physical Education (Men)	287,500.00
122	1931		Hicks - Physical Education (Men)	
123	1959	Amherst	Physical Education (Women)	1,716,581.00
124	1950	Amherst	Hasbrouck - Classrooms & Labs.	501,000.00
125	1907	Amherst	Photography Laboratory	12,000.00
126	1959	Amherst	Public Health - Classrooms & Labs.	1,360,800.00
127	1960	Amherst	Morrill Science I - Classrooms & Labs.	1,941,020.00
128	1948	Amherst	Skinner Hall - Classrooms & Labs.	596,700.00
129	1885	Amherst	South College Administration	100,300.00
130	1912	Amherst	Stockbridge - Classrooms & Labs.	417,066.00
132	1960	Amherst	Dickinson Hall - Classrooms & Labs.	468,105.00
133	1918	Amherst	Power Supply Facility	17,665.00
134	1952	Amherst	Power Supply Facility	263,615.00
135	1959	Amherst	Bowditch - Classrooms & Labs.	293,500.00
136	1911	Amherst	Grinnell Arena	38,000.00
137	1929		Abattoir Slaughter House	
139	1950		Storage - Maintenance	
141	1931	Amherst	Ticket Booth Athletic	500.00
145	1956	Amherst	Poultry House	800.00
146	1955	Amherst	Poultry House	600.00
147	1956	Amherst	Poultry House	800.00
148	1947	Amherst	Brooder House	100.00
151	1923	Amherst	Poultry House	500.00
152	1923	Amherst	Poultry House	500.00
153	1957	Amherst	Brooder House	100.00
154	1957	Amherst	Brooder House	100.00
155	1957	Amherst	Brooder House	100.00
157	1939	Amherst	Storage	3,000.00
158	1947	Amherst	Brooder House	5,000.00
159	1941	Amherst	Storage	1,000.00
160	1959	Amherst	Poultry House	8,000.00
163	1947	Amherst	Brooder House	100.00
164	1947	Amherst	Brooder House	100.00
165	1947	Amherst	Shelters	1,000.00
166	1894	Amherst	Horse Barn	5,000.00
168	1885	Amherst	West Experiment Station Laboratory	27,000.00
169	1906	Amherst	Wilder Hall Classrooms	45,662.00
170	1960	Amherst	Maintenance - Physical Plant	627,000.00
171	1934	Amherst	Goodell Library	1,940,873.00
172	1960		Goodell Library - Addition	

Schedule L-1 (Continued)

Inventory of Buildings and Structures

Bldg. No.	Constructed	Location	Description	Assessed Valuation June 30, 1969
173	1960	Amherst	Orlyte Greenhouse	$ 500.00
177	1920	Amherst	Horticulture Shed	400.00
178	1933	Amherst	Horticulture Shed	1,254.00
179	1920	Amherst	Center Storage Shed	800.00
181	1918	Amherst	Tractor Garage	73.00
182	1911	Amherst	Brooder House	3,100.00
184	1940	Amherst	Poultry House	10,000.00
185	1918	Amherst	Tool Shed	98.00
186	1915	Amherst	Poultry House	50.00
187	1915	Amherst	Shed	100.00
188	1914	Amherst	Poultry House	1,250.00
189	1910	Amherst	Dairy Building	33,211.00
190	1910		Dairy Building	
191	1958		Silo	
192	1958	Amherst	Harvestore Silo	2,000.00
193	1941	Amherst	Barn	4,000.00
194	1910	Amherst	Machinery Shop	4,000.00
195	1928	Amherst	Farm Horse Barn	6,194.00
196	1938	Amherst	Dairy Barn	8,000.00
197	1909	Amherst	Dairy Barn	6,500.00
198	1939	Amherst	Young Stock Barn	36,837.00
199	1939	Amherst	Silo	200.00
200	1939	Amherst	Silo	200.00
201	1939	Amherst	Beef Barn Unit - Barn	5,500.00
202	1939	Amherst	Silo	200.00
203	1939	Amherst	Young Stock Hay Barn	5,000.00
204	1922	Amherst	Bull Barn	14,041.00
205	1933	Amherst	Barn	500.00
206	1927	Amherst	Sheds	50.00
207	1929	Amherst	Brooks Poultry House	200.00
209	1924	Amherst	Brooks Tobacco Shed	3,000.00
210	1957	Amherst	Brooder House	100.00
211	1958	Amherst	Poultry House	2,500.00
212	1958	Amherst	Poultry House	2,500.00
213	1951	Amherst	Comfort Station	20.00
214	1926	Waltham	Laboratory	56,500.00
215	1928		Laboratory	
216	1934		Laboratory	
217	1957		Greenhouse	
218	1924		Barn	
219	1924		Shed	
220	1924		Laboratory	
221	1924		House	
222	1924		Barns	
223	1924		Greenhouse	
224	1929		Greenhouse	
225	1950		Shed	
226	1929		Greenhouse	
227	1935		Propagating Building	
228	1959		Greenhouse	
229	1949		Administration	
230	1949		Power Supply Facility	
231	1924		Garage	
232	1924		Poultry House	

Schedule L-1 (Continued)

Inventory of Buildings and Structures

Bldg. No.	Constructed	Location	Description	Assessed Valuation June 30, 1969
233	1952	E. Wareham	Laboratory	$ 3,050.00
234	1957		Garage	
234	1957		Shop	
235	1926		Pumping Station	
236	1955		Laboratory	
237	1957		Greenhouse	
238	1958		Pumping Station	
239	1960		Laboratory	
240	1960		Storage	
241	1920	Amherst	Pomology Garage	3,185.00
242	1951	Amherst	Poultry House	4,127.00
243	1958	Amherst	Poultry House	7,148.00
244	1958	Amherst	Poultry House	7,147.00
245	1950	Amherst	Poultry House	7,675.00
246	1947	Amherst	Brooder House	100.00
247	1947	Amherst	Brooder House	100.00
248	1947	Amherst	Brooder House	100.00
249	1947	Amherst	Brooder House	100.00
250	1947	Amherst	Brooder House	100.00
251	1947	Amherst	Brooder House	100.00
252	1947	Amherst	Brooder House	100.00
253	1947	Amherst	Brooder House	100.00
254	1957	Amherst	Brooder House	100.00
255	1957	Amherst	Brooder House	100.00
256	1957	Amherst	Brooder House	100.00
257	1957	Amherst	Brooder House	100.00
258	1957	Amherst	Brooder House	100.00
259	1927	Amherst	Open Corn Crib Shed	100.00
260	1927	Amherst	Open Corn Crib Shed	100.00
261	1927	Amherst	Open Corn Crib Shed	100.00
262	1927	Amherst	Open Corn Crib Shed	100.00
263	1927	Amherst	Open Corn Crib Shed	100.00
264	1927	Amherst	Open Corn Crib Shed	100.00
265	1920	So. Deerfield	House	27,950.00
268	1948		Storage	
269	1947		Storage	
270	1939		Storage	
271	1946		Storage	
273	1941		Storage	
274	1935		Storage	
275	1947		Storage	
276	1933		Storage	
278	1922	Belchertown	House	21,400.00
279	1920		Barn	
280	1920		Barn	
281	1920		Storage	
282	1920		Shed	
289	1962	Amherst	Marks Meadow - Laboratory	1,844,690.00
290	1962	Amherst	Laboratory & Classrooms - Morrill Science Center III	1,452,177.00
291	1962	Amherst	Infirmary	961,459.00
292	1962	Amherst	Cold Storage	641,191.00
293	1962	Amherst	Labs. & Classroom - Engineering & Physics	682,187.00
296	1963	Amherst	Holdsworth - Lsboratory & Classroom	1,213,340.00
297	1910	Amherst	House - Bigelow	3,600.00
298	1910	Amherst	Barn - Bigelow	600.00
299	1910		Poultry House - Bigelow	
300	1910		Garage - Bigelow	

Schedule L-1 (Continued)

Inventory of Buildings and Structures

Bldg. No.	Constructed	Location	Description	Assessed Valuation June 30, 1969
305	1914	Amherst	House - French	$ 2,000.00
306	1908	Amherst	House - Adams	3,000.00
309	1910	Amherst	House - Wysocki	3,250.00
310	1910	Amherst	Barn - Wysocki	1,250.00
311	1910		Shed - Wysocki	
312	1910		Shed - Wysocki	
313	1959	Nantucket	House	3,500.00
314	1961	Nantucket	Garage	700.00
315	1959	Nantucket	Apartment	1,200.00
315	1959		Garage	
316	1953	Nantucket	Beach House	600.00
317	1963	Amherst	Classrooms & Laboratory - Business Administration	1,412,091.00
318	1963	Amherst	Classrooms & Laboratory - Hasbrouck Addition	1,899,019.00
319	1963	Amherst	Boyden Gymnasium	2,718,112.00
320	1949	Amherst	House - Holmes	4,000.00
321	1920		Barn - Holmes	
322	1920		Barn - Holmes	
324	1900	Amherst	House - Taylor	16,660.00
325	1900		Barn - Taylor	
326	1900		Barn - Taylor	
327	1900		Shed - Taylor	
328	1963	Hadley	Shed	600.00
329	1965	Amherst	Auditorium - Mahar	231,117.00
335	1965	Amherst	Observatory	10,000.00
336	1965	Amherst	Mobile Classroom	8,265.00
337	1965	Amherst	Mobile Classroom	8,265.00
338	1965	Amherst	Mobile Classroom	8,265.00
339	1965	Amherst	Mobile Classroom	8,265.00
340	1965	Amherst	Mobile Classroom	8,265.00
341	1965	Amherst	Greenhouse (Orlyte)	18,664.00
342	1965	Amherst	Kiln	14,500.00
343	1966	Amherst	Classrooms and Laboratory - Engineering East	1,340,133.00
344	1966	Amherst	Classrooms and Laboratory - Chenoweth Addition	1,372,637.00
347	1966	Amherst	Classrooms and Laboratory - Morrill Science IV	3,473,955.00
358	1966	Amherst	Coal Handling Facilities	231,764.00
359	1929	Worcester	Barn - Cow	25,000.00
360	1929	Worcester	Barn - Hay	6,000.00
361	1925	Worcester	Dairy	2,500.00
362	1929	Worcester	Bath House - Farm	1,000.00
363	1920	Worcester	Silos No. 1 & 2	5,000.00
364	1935	Worcester	Silo No. 3	2,500.00
365	1925	Worcester	Barn - Bull House	2,000.00
366	1920	Worcester	Barn - Manure House	3,500.00
367	1900	Worcester	Barn - Vegatable - Equipment	25,000.00
368	1896	Worcester	Storage - Vegetable	4,000.00
369	1955	Worcester	Gas Station	200.00
370	1930	Worcester	Shelter - Bus Stop Station	100.00
371	1961	Worcester	Greenhouse	6,500.00
372	1913	Worcester	House - Maple	7,000.00
373	1913	Worcester	Garage - Maple	400.00
374	1877	Worcester	House - Farm Cottage	8,000.00
375	1925	Worcester	Garage - Farm	4,200.00
376	1894	Worcester	Apartment - Farm House	35,000.00
377	1967	Amherst	Maple Decline Lab.	2,500.00
383	1967	Amherst	Poultry #1 Tillson	343,393.00
384	1967		Poultry #2 Tillson	
385	1967		Poultry #3 Tillson	
386	1967		Poultry #4 Tillson	

Schedule L-1 (Continued)

Inventory of Buildings and Structures

Bldg. No.	Constructed	Location	Description	Assessed Valuation June 30, 1969
387	1967	Amherst	Classrooms and Laboratory - Agricultural Engineering	$ 320,700.00
388	1967	Amherst	Whitmore Administration	2,758,334.00
393	1926	Boston	Classrooms and Labs.	1,484,100.00
394	1920	Amherst	Dzuiba House	6,170.00
395	1920	Amherst	Dzuiba - Garage	1,980.00
396	1965	Amherst	Dzuiba - Pool	1,540.00
397	1968	Amherst	Storage - Flammable	1,337,804.00
398	1968		Storage - Physical Plant	
398	1968		Administration - Physical Plant	
403	1968	Amherst	Classrooms and Laboratory - Astronomy	205,000.00
404	1968	Amherst	Tillson Shed - Sheep	11,000.00
405	1968	Amherst	Administration - Thompson	2,728,640.00
406	1968	Amherst	Classrooms and Laboratory - Herter	3,428,448.00
407	1925	Amherst	House - Dickinson	12,920.00
408	1925	Amherst	Garage - Dickinson	1,370.00
409	1968	Amherst	Sawmill - Tillson	8,000.00
410	1968	E. Wareham	Laboratory and Classroom - Biology	211,000.00
422	1968	Amherst	Storage - Lumber - Physical Plant	10,000.00
423	1968	Amherst	Tank - Water	75,000.00
424	1928	Amherst	House - McIntire	12,100.00
425	1958	Amherst	House - Waskiewicz	8,000.00
			Total	$60,513,540.00

Summary by Location

Amherst	$58,559,640.00
Belchertown	21,400.00
Boston	1,484,100.00
East Wareham	214,050.00
Nantucket	6,000.00
Pelham	1,500.00
South Deerfield	27,950.00
Sunderland	4,500.00
Waltham	56,500.00
Worcester	137,900.00
Total	$60,513,540.00

Schedule L-2

Inventory of Improvements Other Than Buildings

	Book Value June 30, 1969
Roads, Sidewalks and Parking Areas	$ 3,002,471.88
Sewer, Water and Drainage System	2,124,435.46
Steam Lines	4,572,630.05
Electric Lines	3,585,019.97
Tennis Court	90,894.25
Playing Fields	923,961.12
Coal Handling	444,852.43
Total	$14,744,265.16

University of Massachusetts

at Boston

State Appropriations

Comparative Statement by Subsidiary Accounts

for Boston Branch

Code No.	General Maintenance	1967	1968	1969
	Boston 1350-02			
01	Salaries, Permanent Positions	$1,334,156.00	$1,949,000.00	$2,554,000.00
02	Salaries, Other	207,065.00	500,000.00	518,000.00
03	Services, Non-Employees	300,000.00	535,000.00	755,000.00
06	Housekeeping Supplies and Expenses	-0-	1,500.00	1,500.00
07	Laboratory, Medical and General Care	2,500.00	2,500.00	3,000.00
08	Heat and Other Plant Operations	55,000.00	70,000.00	80,000.00
10	Travel and Automotive Expenses	15,000.00	15,000.00	20,000.00
11	Advertising and Printing	6,000.00	14,500.00	20,000.00
12	Repairs, Alterations and Additions	17,000.00	37,000.00	25,000.00
13	Special Supplies and Expenses	142,000.00	268,000.00	213,000.00
14	Office and Administrative Expenses	30,000.00	65,000.00	80,000.00
15	Equipment	65,000.00	165,000.00	172,500.00
16	Rentals	165,000.00	596,500.00	922,000.00
	Totals	$2,338,721.00	$4,219,000.00	$5,364,000.00(a)

(a) Authorized by Chapter 771 of the Acts of 1968, and

Authorized by Chapter 360 of the Acts of 1969

State Appropriations

Analysis of General Maintenance Appropriation by Subsidiary Accounts

for Boston Branch

Code No.	Subsidiary Account	Appropriation	Available for Expenditure	Total Expenditure & Encumbrances	Balance of Appropriation June 30, 1969
	Boston 1350-02				
01	Salaries, Permanent	$2,554,000.00	$2,554,000.00	$2,553,947.64	$ 52.36
02	Salaries, Other	518,000.00	518,000.00	514,428.89	3,571.11
03	Services, Non-Employees	755,000.00	755,000.00	754,775.14	224.86
06	Housekeeping Supplies and Expenses	1,500.00	1,500.00	1,486.26	13.74
07	Laboratory, Medical and General Care	3,000.00	3,000.00	2,998.24	1.76
08	Heat and Other Plant Operations	80,000.00	80,000.00	79,438.00	562.00
10	Travel and Automotive Expenses	20,000.00	20,000.00	19,962.49	37.51
11	Advertising and Printing	20,000.00	20,000.00	19,997.28	2.72
12	Repairs, Alterations and Additions	25,000.00	25,000.00	24,996.09	3.91
13	Special Supplies and Expenses	213,000.00	213,000.00	212,926.27	73.73
14	Office and Administrative Expenses	80,000.00	80,000.00	79,896.85	103.15
15	Equipment	172,500.00	172,500.00	172,461.69	38.31
16	Rentals	922,000.00	922,000.00	921,974.61	25.39
	Totals	$5,364,000.00	$5,364,000.00	$5,359,289.45	$4,710.55(a)

(a) Balance reverted to State Treasurer

State General Maintenance Appropriation

Summary of Expenditures by Budgetary Divisions and Subsidiary Accounts

for Boston Branch

Code No.	Subsidiary Account	Administration	Instruction	Operation of Plant	Total
	Boston 1350-02-00				
01	Salaries, Permanent	$ 88,323.91	$2,465,452.63	$ 171.10	$2,553,947.64
02	Salaries, Other	163,076.20	298,556.50	52,796.19	514,428.89
03	Services - Non-Employees	145,589.04	375,055.35	234,130.75	754,775.14
06	Housekeeping Supplies and Expenses	399.62	238.00	848.64	1,486.26
07	Laboratory, Medical and General Care	55.00	2,943.24	-0-	2,998.24
08	Heat and Other Plant Operations	-0-	-0-	79,438.00	79,438.00
10	Travel and Automotive Expense	5,663.63	6,634.65	7,664.21	19,962.49
11	Advertising and Expenses	15,771.87	4,187.81	37.60	19,997.28
12	Repairs, Alterations and Additions	2,419.33	1,728.73	20,848.03	24,996.09
13	Special Supplies and Expenses	44,324.53	168,489.99	111.75	212,926.27
14	Office and Administrative Expenses	79,157.92	738.93	-0-	79,896.85
15	Equipment	34,760.27	133,425.96	4,275.46	172,461.69
16	Rentals	5,227.84	10,118.07	906,628.70	921.974.61
	Total	$584,769.16	$3,467,569.86	$1,306,950.43	$5,359,289.45

1969 Fiscal Year Expenditure Report for Boston Branch

by Budget Department

Dept. Code	University of Massachusetts/Boston	State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
C 11	Chancellor's Office	$ 309,226.28	$1,072,254.88	$ 28,949.40	$1,410,430.56
C 21	Business and Financial Management	87,762.87	22,096.13	4,753.05	114,612.05
C 31	Student Personnel	146,374.27	17,948.29	94,478.71	258,801.27
C 32	Health Service	(637.50)	3,365.49	27,374.47	30,102.46
C 41	Library	174,057.53	62,537.45	34,743.42	271,338.40
C 51	Art	31,432.04	2,302.25	1,905.75	35,640.04
C 52	Biology	294,651.10	48,098.54	19,671.12	362,420.76
C 53	Chemistry	197,800.85	48,701.01	28,264.56	274,766.42
C 54	Economics	88,067.94	6,010.74	39,958.71	134,037.39
C 55	English	507,040.67	262.08	25,415.64	532,718.39
C 56	German	110,129.47	120.90	1,107.25	111,357.62
C 57	Government	108,660.03	359.77	6,274.75	115,294.55
C 58	History	322,202.68	2,412.24	13,351.36	337,966.28
C 59	Mathematics	208,190.59	1,215.59	4,833.00	214,239.18
C 60	Music	27,157.70	4,893.85	2,636.87	34,687.42
C 61	Philosophy	25,493.66	208.70	981.62	26,683.98
C 62	Physics	174,272.36	113,157.41	15,126.76	302,556.53
C 63	Psychology	166,723.79	4,839.91	18,301.76	189 865.46
C 64	Romance Lanugages	373,474.04	546.00	1,769.50	375 789.54
C 65	Sociology	94,097.11	692.98	2,458.65	97,248.74
C 66	Lanugage Laboratory	8,899.55	3,077.72	10,592.81	22,570.08
C 67	Humanities	34,837.03	1,880.81	4,348.87	41,066.71
C 68	Social Sciences	32,507.74	5,873.65	795.00	39,176.39
C 69	Physical Sciences	13,632.83	-0-	-0-	13,632.83
C 91	Operation of Plant	287,098.04	113,281.39	1,100.60	401,480.03
	Other	-0-	-0-	4,207.54	4,207.54
	Total	$3,823,151.67	$1,536,137.78	$393,401.17	$5,752,690.62

*Expenditures, other than for Salaries and Wages, not distributed by departments.

Trust Funds - Boston Branch

Statement of Receipts, Disbursements, Transfers and Balances

Fund	Balance July 1, 1968	Receipts	Transfers	Expended	Balance June 30, 1969
Auxiliary Enterprises					
Boston Food Services	$ -0-	$ 5,705.56	$ (1,759.25)	$ -0-	$ 3,946.31
Student Health Services	13,318.72	73,814.60	(10.00)	66,817.60	20,305.72
Total - Auxiliary Enterprises	$ 13,318.72	$ 79,520.16	$ (1,769.25)	$ 66,817.60	$ 24,252.03
Clearing Accounts					
University of Massachusetts Boston - Deposit Account	$ 7,245.55	$ 6,389.41	$ -0-	$ -0-	$ 13,634.96
Total - Clearing Account	$ 7,245.55	$ 6,389.41	$ -0-	$ -0-	$ 13,634.96
General Purpose Funds					
Pre-Registration Fee	$ 20,631.35	$ 27,150.00	$ -0-	$ 26,466.96	$ 21,314.39
Xerox Prize Fund	48.00	-0-	-0-	-0-	48.00
Operating Accounts:					
Upward Bound - 1966-67	4,140.47	-0-	-0-	200.00	3,940.47
Upward Bound - 1967-68	1,470.64	-0-	896.12	-0-	2,366.76
Total - General Purpose Funds	$ 26,290.46	$ 27,150.00	$ 896.12	$ 26,666.96	$ 27,669.62
Student Programs					
Commencement Fee	$ -0-	$ 4,510.00	$ 1,360.00	$ 1,071.00	$ 4,799.00
Student Activity Fee	-0-	112,402.02	29,550.82	106,979.46	34,973.38
Summer Session Fund	78.40	-0-	-0-	-0-	78.40
Total - Student Programs	$ 78.40	$116,912.02	$ 30,910.82	$108,050.46	$ 39,850.78
Sponsored Research					
Merck, Sharp, Dohme	$ 893.80	$ -0-	$ -0-	$ 76.50	$ 817.30
Total - Sponsored Research	$ 893.80	$ -0-	$ -0-	$ 76.50	$ 817.30
Non-Profit Organizations and Foundations					
American Cancer PS-50	$ -0-	$ 8,732.00	$ -0-	$ 5,625.00	$ 3,107.00
Cottrell-Schwartz	-0-	5,900.00	-0-	92.42	5,807.58
Total - Non-Profit Organizations and Foundations	$ -0-	$ 14,632.00	$ -0-	$ 5,717.42	$ 8,914.58
Federal Grants and Contracts					
Training Grants and Contracts					
Office of Education:					
OEG-0-8-080642-2434	$ 25,491.40	$ -0-	$ 4,784.07	$ 30,275.47	$ -0-
Equipment Grants					
National Science Foundation:					
GZ 3706	-0-	-0-	2,982.36	2,982.36	-0-

Student Union - University Store - Boston

Balance Sheet As Of
June 30, 1969

ASSETS

Current Assets:		
Cash in Bank		$ 19,473.76
Cash on Hand		1,000.00
Accounts Receivable		8,380.63
Accounts Receivable - Book Vendors		41,883.93
Accounts Receivable - Supply Vendors		861.49
Inventory - Books		66,785.00
Inventory - Supplies		11,412.00
Prepaid Expenses		315.00
Total Current Assets		$ 150,111.81
Fixed Assets:		
Office Furniture and Fixtures	$ 9,365.36	
Less: Accumulated Depreciation	1,279.05	
		$ 8,086.31
Machinery and Equipment	3,475.06	
Less: Accumulated Depreciation	140.83	
		3,334.23
Automobiles and Trucks	$ -0-	
Less: Accumulated Depreciation	-0-	-0-
Total Assets		$ 161,532.35

LIABILITIES AND CAPITAL

Current Liabilities:	
Accounts Payable	$ 20,131.18
Accrued Payroll	2,065.88
Accrued Taxes - Mass. Sales Tax	19.37
Laboratory Fees	8,763.01
Total Current Liabilities	$ 30,979.44
Long-term Liabilities:	
University Store - Amherst Campus	$ 120,063.36
Total Long-term Liabilities	$ 120,063.36
Capital:	
Retained Earnings	$ 10,489.55
Total Liabilities and Capital	$ 161.532.35

RETAINED EARNINGS

Balance July 1, 1968	$ 33,399.42
Net Income (Loss) for the Year	(22,909.87)
Balance June 30, 1969	$ 10,489.55

University of Massachusetts

Medical School

Worcester, Massachusetts

State Appropriations

Comparative Statement by Subsidiary Accounts

for Medical School

Code No.	General Maintenance Medical School 1350-38	1967	1968	1969	
01	Salaries, Permanent	$ 70,000.00	$ 251,123.84	$ 292,081.60	
02	Salaries, Other	168.12	168.12	15,168.12	
03	Services, Non-Employees	40,000.78	54,443.05	77,783.83	
06	Housekeeping Supplies and Expenses	-0-	-0-	700.00	
08	Heat and other Plant Operations	-0-	-0-	9,000.00	
09	Farm and Grounds	-0-	-0-	500.00	
10	Travel and Automotive Expenses	10,000.00	11,448.02	18,711.68	
11	Advertising and Printing	5,000.00	5,888.00	10,940.55	
12	Repairs, Alterations & Additions	200.00	684.65	8,274.44	
13	Special Supplies and Expenses	1,000.00	10,049.94	18,247.55	
14	Office and Administrative Expenses	7,000.00	6,187.37	13,543.39	
15	Equipment	10,000.00	8,398.70	15,066.56	
16	Rental	-0-	-0-	1,000.00	
00	Special	191,076.69	113,301.50	57,284.65	
	Totals	$ 334,445.59	$ 461,693.19	$ 538,302.37	(a)

(a) Authorized by Chapter 380 of the Acts of 1968

State Appropriation

Analysis of General Maintenance Appropriation by Subsidiary Accounts

for Medical School

Code No.	Subsidiary Accounts	Appropriation	Available for Expenditures	Total Expenses and Encumbrances	Balance of Appropriation June 30, 1969
	Medical School 1350-38				
00	Special	$ 57,284.65	$ 57,284.65	$ 53,507.69	$ 3,776.96
01	Salaries, Permanent	292,081.60	292,081.60	235,317.75	56,763.85
02	Salaries, Other	15,168.12	15,168.12	12,635.96	2,532.16
03	Services, Non-Employees	77,783.83	77,783.83	76,391.37	1,392.46
06	Housekeeping Supplies and Expenses	700.00	700.00	116.95	583.05
08	Heat and Other Plant Operations	9,000.00	9,000.00	8,448.00	552.00
09	Farm and Grounds	500.00	500.00	-0-	500.00
10	Travel and Automotive Expenses	18,711.68	18,711.68	15,041.29	3,670.39
11	Advertising and Printing	10,940.55	10,940.55	8,017.74	2,922.81
12	Repairs, Alterations and Additions	8,274.44	8,274.44	2,651.82	5,622.62
13	Special Supplies and Expenses	18,247.55	18,247.55	7,650.26	10,597.29
14	Office and Administrative Expenses	13,543.39	13,543.39	7,124.44	6,418.95
15	Equipment	15,066.56	15,066.56	14,689.51	377.05
16	Rentals	1,000.00	1,000.00	852.93	147.07
	Totals	$538,302.37	$538,302.37	$442,445.71(b)	$95,856.66(a)

(a) Balances carried forward to Fiscal Year 1970

(b) Encumbrances carried forward to Fiscal Year 1970

State Appropriation

Summary of Expenditures by Budgetary Divisions and Subsidiary Accounts

for Medical School

Code No.	Account Name	Administration	Total
	Medical School 1350-38-00		
01	Salaries, Permanent	$ 235,317.75	$ 235,317.75
02	Salaries, Other	12,635.96	12,635.96
03	Service, Non-Employees	76,391.37	76,391.37
06	Housekeeping Supplies and Expenses	116.95	116.95
08	Heat and Other Plant Operations	8,448.00	8,448.00
10	Travel and Automotive Expenses	15,041.29	15,041.29
11	Advertising and Printing	8,017.74	8,017.74
12	Repairs, Alterations and Additions	2,651.82	2,651.82
13	Special Supplies and Expenses	7,650.26	7,650.26
14	Office and Administrative Expenses	7,124.44	7,124.44
15	Equipment	14,689.51	14,689.51
16	Rentals	852.93	852.93
	Totals	$ 388,938.02	$ 388,938.02

1969 Fiscal Year Expenditure Report by Budget Department

for Medical School

Dept. Code	Medical School	State Funds Salaries and Wages	State Funds Other Expenditures	Other Funds Salaries and Wages*	Net Total
I 21	Medical School	$ 316,675.83	$ 64,592.94	$ 15,988.03	$ 397,256.80
I 41	Medical School Library	7,669.25	-0-	3,772.05	11,441.30
	Total	$ 324,345.08	$ 64,592.94	$ 19,760.08	$ 408,698.10

* Expenditures, other than salaries and wages, not distributed by all budget departments.

Trust Funds

Statement of Receipts, Disbursements, Transfers and Balances

for Medical School

	Balance July 1, 1969	Receipts	Transfers	Expenses	Balance June 30, 1969
General Purpose Funds					
Anatomical Trust Fund	$ -0-	$ 1,912.82	$ -0-	$ 277.17	$ 1,635.65
Biochemistry Service Fund	$ -0-	$ 1,000.00	$ -0-	$ -0-	$ 1,000.00
Medical School Service Fund	$ 6,507.80	$ 70.00	$ 25.00	$ 556.70	$ 6,046.10
Total General Purpose	$ 6,507.80	$ 2,982.82	$ 25.00	$ 833.87	$ 8,681.75
Library Funds					
Medical School Library	$ 125.00	$ -0-	$ -0-	$ -0-	$ 125.00
Total Library Funds	$ 125.00	$ -0-	$ -0-	$ -0-	$ 125.00
Grand Total	$ 6,632.80	$ 2,982.82	$ 25.00	$ 833.87	$ 8,806.75

TO: THE PRESIDENT OF
THE UNIVERSITY

FROM: A.A. SPIELMAN, DEAN

ANNUAL REPORT

July 1, 1968 - June 30, 1969

COLLEGE OF AGRICULTURE
UNIVERSITY OF MASSACHUSETTS

To: President John W. Lederle

Herewith is the Annual Report of the College of Agriculture for the Fiscal Year 1969.

The instruction year has been one of accelerated growth in the number and quality of students, and of increased rapport between students and faculty. For the period 1961-68, graduate enrollment has increased 184%, undergraduate enrollment, 136%, and Stockbridge School enrollment by 53%.

The Cooperative Extension Service reached a greater dimension in the number and effectiveness of programs for the low-income, the disadvantaged, the producers of our food and fiber, families and youth. Especially significant have been those programs relating to the use and protection of our natural resources, and the solution of problems pertaining to our environment.

Research activity continues to increase along with significant findings applicable to the economic and social well-being of all citizens of the Commonwealth.

Special programs, government contract programs, and state regulatory programs all contributed to the overall mission of the College.

As to the future of the College, your attention is respectfully invited to the section "Future Plans and Needs," page 49.

A. A. Spielman

A. A. Spielman, Dean

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Prepared by Radie H. Bunn--from

Reports Submitted by Departments

Appropriations*

Year	Instruction	Control	Extension Service		Experiment Station		TOTALS
			State	OTHER	State	OTHER	
1966-67	$1,566,078.00	$371,460.00	$562,909.00	$697,286.00	$1,007,805.00	$725,441.00	$4,930,979.00
1967-68	1,802,816.00	379,775.00	597,729.00	697,286.00	919,421.00	725,441.00	5,122,468.00
1968-69	1,655,743.00	374,404.00	626,625.00	791,099.00	1,184,924.00	882,349.00	5,515,144.00

* Calculated from Allotment Control Register.

Personnel - Number In Each Rank

Academic Personnel	September 1966	September 1967	September 1968
Dean	1	1	1
Associate Dean and Director of Stockbridge School	1	1	1
Associate Director of Extension	1	1	1
Commonwealth Head of Department	1	1	1
Head of Department "A"	8	9	11
Head of Department, academic year	1	1	1
Commonwealth Professor, academic year	1	1	1
Professor "A"	42	41	44
Professor, academic year	6	6	8
Associate Professor "A"	39	38	40
Associate Professor, academic year	5	7	11
Assistant Professor "A"	37	29	29
Assistant Professor, academic year	16	14	19
Instructor "A"	13	13	12
Instructor, academic year	2	3	2
Visiting Lecturer	1	3	1
Lecturer	1	2	6
TOTAL (does not include vacancies)	176	171	189

Non-academic Professional Personnel			
Assistant to Dean	0	0	1
Assistant Director of Experiment Station--Extension Service	1	1	0
Staff Associate	1	1	1
Staff Assistant	3	3	3
TOTAL	5	5	5

Organization Chart

Department	Resident Instruction			Non-Resident Instruction	Experiment Station	Control Services
	Assoc. Degree	B. S. Degree	Grad.	(Cooperative Extension)		
Agricultural and Food Economics	X	X	X	X	X	
Agricultural Engineering		X	X	X	X	
Cranberry Station				X	X	
Entomology		X	X	X	X	X
Environmental Sciences				X	X	X
Feed-Fertilizer-Seed and Dairy Law					X	X
Food Science and Technology	X	X	X	X	X	
Forestry and Wildlife Management	X	X	X	X	X	
4-H and Youth Programs				X		
Home Economics Extension *				X		
Hotel and Restaurant Administration	X	X		X		
Landscape Architecture	X	X	X		X	
Plant Pathology		X	X	X	X	X
Plant and Soil Sciences	X	X	X	X	X	
Veterinary and Animal Sciencea	X	X	X	X	X	X

* In School of Home Economics

Resident Instruction Highlights

The College's four-year enrollment of 805 is the highest in New England, is exceeded only by two Northeast Region institutions, and tops more than 60% of the member schools in the National Association of State Universities and Land-Grant Colleges.

Enrollment exceeds that in institutions in such agricultural states as Alabama, North Dakota, Colorado and Washington, Although graduate enrollment decreased nationally, the College's enrollment increased over 15%. The Stockbridge School enrollment of 601 is the highest in the nation for two or three-year programs.

Four-year and two-year enrollment in the hotel and restaurant program, since 1963, has increased 500% and 200% respectively; and four-year enrollment in animal science, more than 50% in three years. The quality of animal science students is shown by the fact that 26% have cumulative grade point averages above 3.0.

Transfer students from other departments in the University, from Stockbridge and Community Colleges continue to be a major reason for the general enrollment increase in the College.

The Department of Forestry and Wildlife Management is one of the top 10 in student enrollment among 76 North American universities offering training in wildlife and fisheries biology. With 138 students enrolled in wildlife and 70 in fisheries, UMass ranks sixth and fifth in these areas and has the largest combined enrollment (208) of any university east of the Mississippi River. Average enrollment among all 76 universities with a wildlife-fisheries curricula is 95.

Three students from Malawi, Africa received B.S. degrees at the May commencement. They have returned to their native land for teaching and professional

positions. The three attended the University through the Center for International Agricultural Studies. Of the original contingent of nine Malawi students, two graduated with the Class of '68 and the remaining four will complete requirements for their degree in 1970.

The Department of Landscape Architecture has established a limited staff exchange program with the Civil Works Division, U. S. Army Corps of Engineers to provide faculty with the opportunity to experience planning operations in a federal agency, and agency planners to participate in academic activities. This is the first program of its kind in the country.

The Institute of Agricultural Industrial Microbiology is conducting a 6-credit institute for the study of water pollution control, June 23 to August 1. The institute for 20 high school teachers of science is supported by a $41,969 Federal Water Pollution Control Administration grant. Development of a curriculum for high school science classes is a major objective.

A 3-credit program in Greenhouse Management for 12 high school biology teachers is being held this summer for the second year by the Department of Plant and Soil Sciences. A National Science Foundation grant supports the formal training designed to be of benefit in the biology programs within school systems.

A new Department of Hotel and Restaurant Administration was established in February. Studies in this area formerly were offered in a program of the Department of Food Science and Technology. The new department has the second highest enrollment in the College -- 260 four-year and two-year students.

Student involvement in actual environmental problems as part of their learning experience increases in the Department of Landscape Architecture. Projects for graduate students included a study of existing and incipient blight in the city of Holyoke as part of a pilot investigation for a report to HUD, a study of the physical aspects of the central business district of

Manchester, Conn., by seniors in which planning and design proposals were made, and four graduate thesis projects concerned with environmental issues in the Connecticut Valley.

In May the Undergraduate program in forestry was examined for reaccreditation by the Society of American Foresters. Results will be known in October. The program was first accredited in 1950 and reaccredited in 1961.

New undergraduate scholarship funds have been established in several departments including five $400 awards in Food Science and Technology.

A two-year associate degree program in wood products technology and an extension service for wood-using companies in Massachusetts have been established by Mount Wachusett Community College through a Commonwealth Technical Resource Service (COMTECH) grant and the Wood Science and Technology program in the Department of Forestry and Wildlife Management. Dr. William V. Rice is acting coordinator of the wood products office at Mount Wachusett, and will organize the initial programs. The extension service will provide technical assistance to area communities and local companies.

Undergraduate curriculum and graduate programs throughout the College were reviewed, revised, and strengthened:

Undergraduate

Through joint discussions with students, course requirements were modified and students given more latitude and responsibility for course selection.

Teaching programs or courses were initiated in acquatic entomology, principles of plant protection, microbiology of the soil, lipid biochemistry, plant virology, and insect physiology (revised).

A computer-assisted inventory system for food service operations developed by N. G. Cournoyer is being used by the University Dining Services and taught in seminar classes.

A course in acquacultural engineering will be offered this Fall to develop

this aspect of food engineering. The importance of engineering in the education of Hotel and Restaurant Administration majors has led to significant changes in the course content of agricultural engineering and the joint appointment of a staff member in Hotel and Restaurant Administration.

Graduate

Courses were initiated in plant-water relations, pigments in foods, agriculture and the national economy and quantitative methods.

Principles of Plant Protection was taught at Waltham in the Fall semester with seven transient graduate students enrolled. Five students were high school biology teachers, two were University employees and one an extension specialist. Nine others attended on a non-credit basis.

Two new graduate programs are being developed for authorization and initiation this Fall. One is for M.S. and Ph.D. programs in Food Engineering. The second is a joint program with the School of Business Administration for a Master's Degree in Hotel and Restaurant Administration. Three University Graduate School enrollees presently are pursuing second B.S. degrees majoring in Hotel and Restaurant Administration.

Off-campus instructional programs included separate courses in "Merchandising in Food Service Operations" and "Food Service Management" offered to food service personnel. Each was a 22-week course carrying three credits toward the associate degree.

Number of Student Majors

(GRADUATE, UNDERGRADUATE, STOCKBRIDGE)

Department	1966	1967	1968
Agricultural and Food Economics	90	105	141
Agricultural Engineering	21	18	20
Entomology	25	36	35
*Food Science and Technology	255	316	85
Forestry and Wildlife Management	345	359	364
**Hotel and Restaurant Administration	-	-	260
Landscape Architecture	277	302	344
Plant and Soil Sciences	190	186	196
Plant Pathology	9	11	13
Veterinary and Animal Sciences	171	214	244
Totals	1,383	1,547	1,702

*Includes Hotel and Restaurant Administration for 1966-1967
**New Department Effective 2/1/69

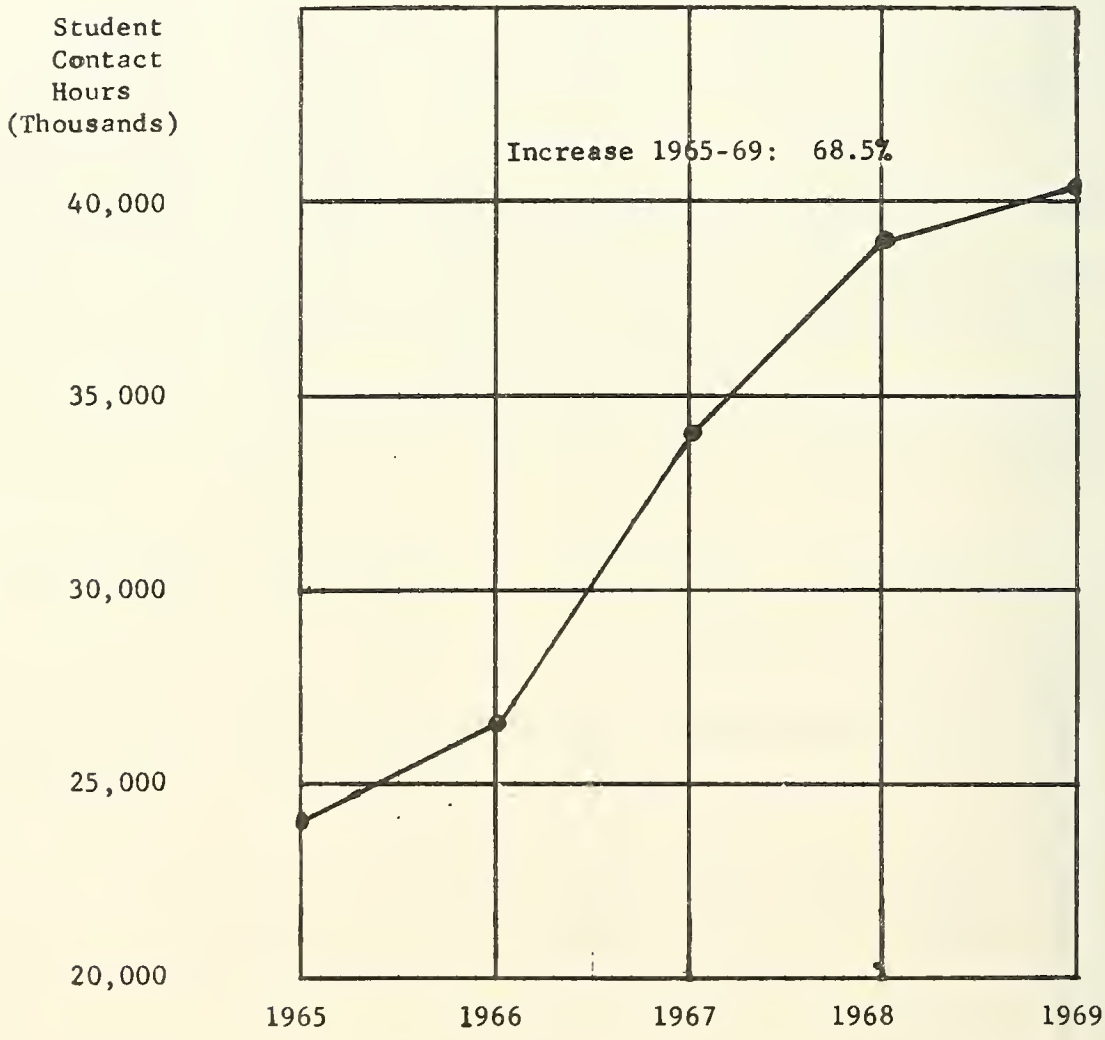
Total Class Enrollments

(GRADUATE, UNDERGRADUATE, STOCKBRIDGE)

Department	1965-66	1967-68	1968-69
Agricultural and Food Economics	1,415	1,426	1,973
Agricultural Engineering	1,729	775	470
Entomology	1,189*	1,410*	727
Environmental Sciences	-	-	42
Feed, Fertilizer, Dairy Law, etc.	-	18	18
**Food Science and Technology	1,677	2,388	1,824
Forestry and Wildlife Management	957	1,281	1,408
***Hotel and Restaurant Administration	-	-	484
Landscape Architecture	1,748	2,284	1,964
Plant and Soil Sciences	2,096	2,428	2,242
Plant Pathology	-	-	182
Veterinary and Animal Sciences	878	1,621	1,155
Totals	11,689	13,613	12,489

*Includes Plant Pathology
**Includes Hotel and Restaurant Admin. for Fall Semester '68
***New Department Effective 2/1/69

Total Student Contact Hours



Number of Graduate Students and Post-Doctoral Fellows

Department	M. S.	Ph. D.	Post-Doctoral Fellows
Agricultural and Food Economics	26	9	-
Agricultural Engineering	6	9	-
Cranberry Station	-	-	3
Entomology	15	10	-
Environmental Sciences	-	-	3
Food Science and Technology	20	29	1
Forestry and Wildlife Management	31	14	1
Landscape Architecture	42	-	-
Plant Pathology	9	4	-
Plant and Soil Sciences	26	15	-
Veterinary and Animal Sciences	17	14	2
Totals	192	104	10

Number of Degrees Awarded

Degrees	Sept. 1966 to June 1967	Sept. 1967 to June 1968	Sept. 1968 to June 1969
Bachelor of Science	103	148	194
Master of Science	56	63	56
Doctor of Philosophy	17	9	14
Stockbridge School	213	224	249
Totals	389	444	513

Academic Honors -- Class of 1969

UNDERGRADUATE

Senior Honors

FAYE M. ALLIS, Animal Science
JAMES W. BANDER, Forestry
JEAN A. BYBEE, Animal Science
DAVID J. CARLSON, Animal Science
LARRY DENNISON, Forestry
MERTON B. GUERNEY, Forestry
STEPHEN KNAPP, Wildlife Biology
LEONARD P. RADIN, Entomology
JOEL L. STONE, Wildlife Biology

Magna Cum Laude

EDWIN BRADFORD CADY, JR., Forestry
LINDA LEE DOGGART, Animal Science
ROBERT NOEL MCENEANY, Agricultural and Food Economics

American Society of Animal Science Scholarships Awards

Students must rank scholastically among the top 10% of their class in the College of Agriculture.

JEAN BYBEE, DAVID CARLSON, KENNETH ESTY, LINDA DOGGART, JOSHUA MTIMUI.

New York Farmers Scholarships (Academic Excellence)

LINDA DOGGART, animal science, highest average in senior class, College of Agriculture for third consecutive year (3.6).

National Honor Societies

PHI KAPPA PHI (for superior scholarship)
LINDA DOGGART, Animal Science
EDWIN B. CADY, Forestry
LARRY DENNISON, Forestry
JOEL STONE, Wildlife Biology

SIGMA XI (For scientific research)
DAVID J. CARLSON, Animal Science
(Associate Membership)
EDMOND G. DEARBORN, Wood Technology
THOMAS F. QUINK, Forestry
STEPHEN M. WALESKI, Forestry

XI SIGMA PI (for scholarship in forestry)
Sixteen students elected to membership. EDWIN CADY selected outstanding departmental senior; JOEL STONE appointed member of College of Agriculture Educational Policies Committee.

STOCKBRIDGE SCHOOL

With Honors

DARRYL F. CAPUTO, Landscape Operations
BRUCE M. HATHAWAY, SR., Landscape Operations
CYNTHIA J. FOURNIER, Animal Science
DEAN B. WALLACE, Animal Science
JOHN W. FAIRHURST, Turf Management
PATRICIA A. TRUSSELLE, Laboratory Animal Management

Lear Honorary Scholastic Society

Twenty-six graduates elected members. Students must have a 3.4 or higher cumulative average.

New York Farmers Scholarships (Academic Excellence)

DARRYL F. CAPUTO and BRUCE M. HATHAWAY, SR., landscape operations, (tie) highest average in senior class (3.9).

Continued Studies

For the fifty consecutive year, more than one-third or about 75 members of this year's graduating class will continue study for their B.S. degrees at institutions here and away. Of the 75, 45 will transfer to the University's four-year program.

Accomplishments and Recognition of Student Majors

Department of Agricultural and Food Economics

ROBERT STURTEVANT, given "best thesis award" in 1968 New England Agricultural Economic Council competition. Received M.S. degree in 1967.

THOMAS MINOGUE, elected President of Graduate Student Senate for 1968-69.

GERALD B. AHERN and STEPHEN J. MONTGOMERY, each received a $600 Undergraduate Assistantship Scholarship Award.

Department of Entomology

Students authored 10 technical articles during the academic year. Five graduate students were elected to full membership and two to associate memberships in Sigma XI, national honor society to promote original research.

Of a graduating class of five students, two will pursue graduate work in entomology and one in dentistry.

Department of Environmental Sciences

MARK SEGAL and ALFRED HOFFMAN, graduate students, were awarded NDEA fellowships. The former presented a paper at the annual meeting of the Society for Industrial Microbiology.

Department of Food Science and Technology

RODNEY J. CROTEAU, graduate student, awarded a $4,000 Institute of Food Technology (IFT) Fellowship plus a $3,400 National Aeronautics and Space Administration Traineeship.

ELIZABETH A. GULLETT, awarded a $1,000 IFT Florasynth Graduate Fellowship.

THOMAS C. BIBEAU, awarded $500 IFT scholarship.

Twenty-five graduate students were elected to national honor societies as follows: Phi Kappa Phi, 3; Phi Lau Sigma, 9; Sigma Xi, 13.

Department of Forestry and Wildlife Management

The following were elected to national honor societies: JOSHUA MILSTEIN, graduate student in Wood Technology, Phi Kappa Phi; and WENDELL DODGE, Wildlife Biology alumnus, full membership in Sigma Xi.

STEPHEN KNAPP, Wildlife Biology, elected to Xi Sigma Pi, national honorary forestry society and also presented technical paper at New England conclave. Elected first president of New Wildlife Society Chapter and presented paper at Eastern conclave.

Department of Hotel and Restaurant Administration

THE INKEEPERS, student service organization, produced a sound slide presentation on "Buffet Presentation" which was staged for food service employees at Harvard University. Members of the group also manned booths, which were provided complementary, for the Department at the New York Hotel and Motel Exposition and at the New England Hotel and Restuarant Show.

Three undergraduates served as captains of teams in athletics: RICHARD MCHUGH, Ski Team; MICHAEL KASAVANA, Gymnastics; and NICK WARNOCK, Football Team co-captain.

Department of Landscape Architecture

LEO ROBERT NEVILLE and DONALD YONIKA, Class of '69, received certificate of merit award from the American Society of Landscape Architects for outstanding accomplishments in landscape architecture course work and excellence in total academic performance.

THOMAS NIEMAN and FRANK VANGELI, graduate students, received grants from the America The Beautiful Fund of the Natural Area Council, Inc. to develop a landscape conservation program in the Great Meadows Area of the Connecticut River Valley.

DAVID DUNNY, RAYMOND FLOREST, TODD LAFLEUR and DAVID MALIFF, Stockbridge majors in Arboriculture and Park Management received Massachusetts Tree Wardens and Foresters Association Scholarships.

GRADUATE STUDENT DESIGN CLASS -- Special town meetings were convened in the towns of Leverett and Shutesbury for a presentation of a study undertaken by the class on "the effect of large scale development upon small New England communities." North Hadley, Shutesbury, East Leverett and Leverett used as case studies.

Department of Plant and Soil Sciences

EDWARD H. SAVER, Class of '69, conducted original research on lilies, part of which was published in the bulletin of the Massachusetts Fruit Growers' Association. His material also is being prepared for presentation as a student paper at the national meeting of the American Society for Horticultural Science (ASHS) at Pullman, Wash.

The following graduate students presented papers at the Northeast Regional Meetings of the ASHS, Harvard University, Jan. - Feb., 1969:

D. E. ROBINSON, Response of 'McIntosh' apple trees to simazine.

O. AJAYI, The effect of potassium on ammonium toxicity of tomatoes.

H. E. HOHLT, Ammonium toxicity among genera in the family Solanaceae.

RAFAEL P. CREENCIA, Some physiological effects of chilling on corn seedlings.

YUAN-TSENG PAN, Further studies of apple carbohydrases: on abnormal amylase or an abnormal complex of carbohydrases.

P. REID, Effect of gibberellic acid on phenylalanine ammonia lyase in several vegetables.

J. M. BARDZIK, Effect of water stress on several enzymes in corn.

Department of Veterinary and Animal Sciences

Three undergraduate majors have been accepted at College of Veterinary Medicine: CHARLES BALDWIN, Cornell University; DAVID CARLSON, Cornell University; PETER BASSINGANI, Michigan State University.

Four undergraduates have been accepted for graduate work: JEAN BYBEE, University of Massachusetts; CAMILLO DEGRAZIA, University of Connecticut; PETER DUPUIS, University of Massachusetts; STANLEY KUNIEWICH, University of Nebraska.

American Society of Animal Science Scholarship Awards. Students must rank scholastically among the top 10% of their class in the College of Agriculture. Ten junior and sophomore animal science students qualified as follows:

Juniors: PAMELA ROECKER, MARGARET STERNI, FAYE ALLIS, MARY CARROLL, CAROL TOMKIEWICZ.

Sophomores: ROBERT DYER, KATHLEEN BROOKMAN, JANIS HIGGINS, MARGO MCGOWAN, PETER TORODE.

PETER DUPUIS, animal science, Class of 1969, Ralston Purina Summer Scholarship Intern Award.

New York Farmers Scholarships (Academic Excellence)

Highest Average in Respective Class

ROBERT G. WALTERMIRE, wildlife biology, and RICHARD W. STANLEY, forestry, Class of '70, tie (3.7).

RAYMOND P. GURIES, forestry, Class of '71, (3.7).

JANET E. BARGE, animal science, Class of '72 (3.7).

JOAN F. BENNETT, animal science, Stockbridge '70 (4.0).

SCIENTIFIC TRAINING AND PLACEMENT

Two random examples from the graduating class point up the basic soundness of the College's academic program and the career opportunities awaiting well-trained students. Gopal Singh, who was awarded the first Ph. D. degree in agricultural engineering last September, accepted a position as design engineer with the Massey-Ferguson Company in Detroit, at $12,000 per year. In four months his salary was increased to $15,000. After three more months he again was promoted to engineering analyst at the Company's new Research and Development Center at a salary of $18,000.

The career pursuits of 18 animal science majors clearly indicate that few of them accept farm positions upon completion of their scientific training. Only three returned to the farm while four will attend graduate school, three will attend colleges of veterinary medicine, one is in the service, and the remainder have taken positions in educational work or industry. Out of 40 graduates in the past three years, only six went into farming.

Applications for Entrance, September 1968

UNDERGRADUATE STUDENTS

Major	Number Received	Number Accepted	Number Rejected	Withdrawals	Number Enrolled
Coll. of Agriculture	121	35	85	17	19
Ag. & Food Ec.	3	2	2	1	1
Ag. Engr.	5	3	3	2	-
Animal Science	37	19	19	10	8
Entomology	2	2	1	1	1
Food Science & Tech.	10	7	4	3	3
Forestry	150	54	94	30	25
Landscape Arch.	45	21	23	10	12
Park Administration	2	3	-	1	1
Plant & Soil Science	11	6	6	3	2
Hotel & Rest. Adm.	83	26	55	15	12
Pre-Veterinary Sci.	46	12	35	7	4
Wildlife Mgt.	97	37	58	25	14
Total Freshmen	612	227	385	125	102

TRANSFER STUDENTS

Community Colleges - - - - -	26
Stockbridge - - - - - - - - -	19
Massachusetts Colleges - - -	8
Out of State - - - - - - - - -	25
Total Transfers	78
Total Freshmen	102
Total Freshmen and Transfers	180

STOCKBRIDGE SCHOOL STUDENTS

Major	Number Received	Number Accepted	Number Rejected	Withdrawals	Number Enrolled
Agri. Business Management	17	15	2	5	11
Animal Science	102	84	18	24	58
Arboriculture & Park Mgt.	126	78	48	18	59
Dairy Technology	8	7	1	1	6
Floriculture	32	26	6	6	19
Food Distribution	16	16	-	4	12
Fruit & Veg. Crops	14	12	2	3	9
Landscape Operations	45	32	13	7	26
Lumber & Building Mat.	11	9	2	3	7
Restaurant & Hotel Mgt.	115	71	44	17	55
Turf Management	75	54	21	11	42
Wood Utilization	21	18	3	8	11
Totals	582	422	160	107	315

Student-Faculty Interaction

Increased student-teacher communication was noted during the year. This was achieved by revitalizing the usual methods of interaction such as counseling; by establishing joint academic committees; and by innovations to strengthen student-faculty understanding and the educational thrust of the College.

A trial Course-Instructor Evaluation proved a milestone in efforts to improve courses, teaching effectiveness, and faculty rating procedures. Eight departments, 20 instructors and 850 undergraduate students participated.

The evaluation was sponsored by the College's Educational Policies Committee and was carried out by Alpha Zeta, honorary professional fraternity. Results have been computerized and released to the instructors who voluntarily participated. This evaluation will be extended to all courses starting this Fall and will be conducted each semester for the next two years.

Two student members were added to the College's Educational Policies Committee: F. C. Thompson, graduate student in entomology; and Joel Stone, wildlife biology, '69. Both were selected by student groups.

All of the 10 instruction departments have student-faculty committees functioning in various areas. Results of this interaction has resulted in: 1. changed and improved course offerings, 2. the "bridging" of problem gaps, 3. valuable suggestions and ideas communicated by the students, 4. better supervision of research and special projects, and 5. better use of laboratories and other physical space.

Informal social events have enabled students and faculty to get acquainted in a way not possible in the classroom. These range from student-faculty nights to entertainment of students in faculty homes.

More formal types of interaction were provided by luncheons and dinners sponsored by departments and student clubs, seminars and colloquia. Students were appointed to committees for alumni conference planning, physical plant, and field trips. Results of this exchange have been: 1. additional greenhouse laboratory space for Stockbridge students, 2. staffing of the French Hall Library on week-day nights, 2. an employment opportunity seminar, 4. revision and improvement of graduate programs, and 5. closer student-faculty relationships.

The department of Forestry and Wildlife Management, with the highest number of students in the College, now has a student-faculty committee for each of its four main subject areas. A committee for graduate students was formed. The department also sponsored weekly, non-credit seminars conceived and operated by graduate students, and open to faculty and undergraduates.

Increased faculty participation in student clubs and organizations also contributed to communication and understanding.

Involvement of faculty in strengthening student-faculty relationships within the College and the University is typified by Department of Plant and Soil Sciences staff. Dr. George B. Goddard is Chairman of the University Committee on Student Affairs, advisor to the University Horticultural Society, and a member of the College of Agriculture Educational Policies Committee. Dr. Mack Drake is a member of the University Foreign Students' Advisory Committee, and Dr. D. N. Maynard is a member of the Ad Hoc University Committee on Picketing and Demonstrations.

Research Highlights

Accomplishments in research are reflected by significant results in current projects and potential contributions by a number of new investigations.

A yellow sweet corn hybrid, Early Golden Giant, was introducted. It is earlier, more productive and bears larger ears than North Star, the dominant early market hybrid of the past 25 years.

A study of some starch hydrolyzing enzymes in apples has resulted in the successful characterizing of some of the more complex carbohydrases in this fruit not noted as a rich source of protein or enzymes.

Research with succinamic acid during the past five years was helpful in obtaining FDA clearance of this compound for commercial use on apples. This material is capable of almost indefinite fruit abscission control and the retardation of flesh softening and watercore development. These attributes make it possible to extend the harvest season of some apple varieties from 3 to 5 weeks without serious loss due to fruit drop or overripeness.

Achievements in Experiment Station and the Cooperative Wildlife and Fishery Research Units investigation include: 1. perfection of methods for the artificial extablishment of eastern white and red pines by direct seeding; 2. the development of techniques to measure stress changes in the cross-sectional shape of wood pieces; 3. increased knowledge regarding the development of root systems on red maple and paper birch such as the nature of root tips, the effect of root injury on branching, and the detection of morphological changes within the root as an indicator of such injury; and 4. determination of current land use on either side of the Connecticut River from source to mouth, and in Massachusetts the changes in such use since 1952.

A project on the resistance of the two-spotted mite to control methods has established a mechanism of response to directed selection or controlled population development in an arrhenotokous species, the first intensive study on directed selection for this species.

Air pollution studies experimentally demonstrate a depression in asexual and sexual reproduction in a plant population chronically exposed to a low level of ozone in the environment; and a decrease in flower production, change in plant growth habit and leaf damage to geranium exposed to a chronic low level dosage of the same pollutant.

Work with tobacco and petunia varieties shows that pollen from pollution-resistant plants is also resistant to low levels of a particular pollutant, and that pollen from a pollution-susceptible variety of the same plant like wise is susceptible to damage. This indicates the possibility that air pollutants in our environment may be exerting selective force on some of our plant species. The possibility that certain injury to potatoes may be enhanced by predisposing the plants to an air pollutant like ozone also is indicated.

Research on cranberries has resulted in chemical control for poison ivy and for bramble. Malathion, used as a color accelerating agent, may soon be supplanted by a discovery of greater promise. The new compound appears to accelerate ripening rather than increasing pigment per se.

Research on cranberry insect control has brought two major findings. The moth (Sparganothis sulfurana) was successfully reared in the laboratory on an artificial diet, opening the way to mass rearing and chemosterilant and radio-sterilant control studies. The cranberry fruit-worm (Acrobasis vaccinii) was successfully mated in the laboratory after several years of failure. Work is now aimed at developing an artificial diet acceptable to the first larval instars so that they too can be mass reared.

A wildlife physiologist and avian geneticist have helped to save the Commonwealth ten's of thousands of dollars in labor and time annually by perfecting a method of determining the sex of day-old Pheasant chicks by a sex-linked down color. Only cock pheasants are legal game in Massachusetts, and the previous method of separating the sexes on State Game Farms before releasing the males took up to as long as eight weeks and was only 80% accurate.

A food bacteriologist may help the state's fishing industry save thousands of dollars annually by eliminating hard-to-remove fish spoilage bacteria found in storage holds of fishing vessels. A jet of hot detergent followed by a potable water rinse has effected a 99% reduction of bacteria. Viruses known as bacteriophage which destroy fish spoilage bacteria also are being studied.

New research of potential significance includes:

A $5,500 Public Health Services Biomedical Support Grant to pay in part the salary of a post-doctoral fellow to work on biochemical and microbiological investigation of tumor viruses.

The compilation of data on dairy cow prices as an advisory base for the State Excise Tax; and a compilation of dairy livestock prices, records of sales and purchases of dairy cows used in directing town assessors on tax base calculations.

Development of a linear programming computer code designed to provide output in a management information context; and a Poultry Farm Simulator capable of testing alternative production marketing strategies.

A study of the effect of interstate highway construction on wetland wildlife habitats supported by a grant from the federal Office of Water Resources Research plus two other OWRR grants for projects to be initiated next year.

Development of an Experiment Station project on mechanical injury to processed fruits and vegetables during handling as a result of growing activity in food engineering and relating directly to stepped-up instruction emphasis.

Three research laboratories for applied entomology, ecology and physiology have been renovated for use, and a project on Tricarboxylic Acid Cycle Intermediates in Normal and Anesthetized Insects initiated.

Other highlights pertaining to the College's research program was the completion, furnishing and use of the new laboratory building at the Cranberry Experiment Station. The United Cape Cod Cranberry Company furnished the new library and seminar room as a memorial to Marcus L. Urann. The largest and most

complete collection of cranberry literature in the world is housed there. The A. D. Makepeace Co. has offered to furnish one of the graduate research laboratories as a memorial to John C. Makepeace.

Two Polish scientists, Dr. A. Wilski and Dr. J. Giebel, met with faculty of the Departments of Entomology and Plant Pathology for two days in September to discuss plant resistance to nematodes. Dr. Wilski also conducted research in this area at the Cranberry Station from mid-September until December.

Dr. Martin Sevoian was invited to present a paper on Avian Leukosis at the World Veterinary Poultry Association in Belgrade, Yugoslavia this coming September. He also is preparing as article on this topic for publication in an early fall issue of Agricultural Science Review.

Dr. Irving S. Fagerson is among scientists from many parts of the world who will participate at a symposium in the sensory evaluation of food this September in Goteborg, Sweden. He will contribute a paper on his research speciality, the chemistry of food aromas.

Dr. J. B. Wycoff spent the academic year as a visiting scholar with Resources for the Future in Washington, D. C. He participated in a study of Suburban Land Conservation, contributed to two book-length manuscripts, and assisted in a NASA project to evaluate the potential benefits of Earth oriented space stations, particularly the economic impact of resource adjustments that could result.

The second volume of "Advances in Acarology," a series of comprehensive studies in six areas of acarology designed as a reference book for teachers, students and researchers, has been published with Dr. John A. Naegele as editor. Acarology, a relatively new field, is the study of mites and ticks.

Dr. Bert M. Zuckerman was called to Africa by the government of Malawi in June to help solve crop production problems, specifically the destruction of the essential oil plant ninde through nematode or parasitic worm attack. He also advised on banana and tobacco production problems.

Research -- Scope of Interests

AGRICULTURAL AND FOOD ECONOMICS
Marketing and Prices, Farm Management, Production Economics, Food Distribution, Transportation, Resource Economics, Recreational Resources.

AGRICULTURAL ENGINEERING
Agricultural Engineering, Biological Environment, Biological Process, Food Engineering.

CRANBERRY STATION
Plant Physiology, Pesticidal Pollution-Environment-Problems, Agricultural Engineering, Entomology, Experimental Biology, Plant Growth Regulators, Cranberry Production, Plant Breeding-Nutrition.

ENTOMOLOGY
Plant Virology, Tree Physiology-Diseases-Insects, Ecology, Morphology and Phylogeny, Systematic Entomology, Apiculture, Taxonomy, Toxicology.

ENVIRONMENTAL SCIENCES
Food Plant Biology, Adaptability of Food Plants, Air-Soil-Water Pollution, Microbiology, Biochemistry, Avian and Plant Disease Diagnosis, Acarine Biology, Ornamental Plant Biology, Environmental Adaptability of Food Plants, Ecology of Microflora, Ecological Genetics, Water Autrophication.

FOOD SCIENCE AND TECHNOLOGY
Dairy Technology, Food Colorimetry, Food Science, Marine Foods, Food Preservation, Meat Science and Technology, Food Processing, Food Flavors, Analytical-Biochemical-Lipid Chemistry of Foods.

FORESTRY AND WILDLIFE MANAGEMENT
Wood Utilization and Technology, Forestry and Resource Development, Forest Hydrology, Recreational Resources, Forest Management, Forest and Resource Development, Wildlife Biology-Ecology, Fisheries Biology, Genetic and Environmental Adaptability of Forest Trees, Control of Wildlife-Bird Depredations.

LANDSCAPE ARCHITECTURE
Natural Resource and Landscape Planning, Adaptability of Selected Ornamentals, Computer Graphics and Resource Mapping and Planning, Identification and Value of Landscape Planting, Environmental Design.

PLANT AND SOIL SCIENCES
Physiology, Breeding and Genetics, Nutrition, Environmental Physiology, Morphology, Soil Chemistry-Microbiology-Physics-Fertility, Turf Management, Plant Growth Regulators, Weed Control, Forage and Field Crops, Food Crops, Ornamentals.

PLANT PATHOLOGY
Transmission of Pome Fruit Viruses, Wilt Diseases of Trees, Injury by Plant Parasitic Nematodes, Virus Diseases of Forest Hardwoods, Physiology and Biochemistry of Nematode and Nemstode-Host Relationship, Ozone Damage to Trees.

VETERINARY AND ANIMAL SCIENCES
Animal (and Avian) Diseases-Genetics-Nutrition-Physiology-Reproduction, Veterinary Hygiene, Factors Affecting Milk Composition, Nutritional and Environmental Interactions in Fowl, Respiratory Diseases in Poultry, Avian Lymphomatosis.

Research Projects

DEPARTMENT OF AGRICULTURAL AND FOOD ECONOMICS

The Impact of the Board of Directors on the Success or Failure of Farm Cooperatives -- John H. Bragg with Leonard K. Mseka

Design and Evaluation of a Ghetto Food Store Managerial Training Program for the Black Entrepreneur -- Bragg with Sydney S. Schmitchel

The Efficiency of Alternative Railroad Costing Methods as a Basisof Rate Determination (Hatch 296) Alfred A. Brown

An Analysis of Municipal Expenditures and Revenue Sources in Massachusetts Communities -- James W. Callahan

Selected Interrelationships Between Poultry Marketing and Other Sectors of the Economy (Hatch 285, NEM-39) Robert L. Christensen

The Impact of Insurance Companies on the Rural Communities and Families in Northern New England -- Christensen with Rodney A. Stucki

An Analysis of Production Costs in Nursery or Greenhouse Operations -- Christensen

Input-Output Analysis of Sectors of the Massachusetts Economy (Hatch 295) N. Eugene Engel, Thomas Minogue, and Paula Roessel

A Legal and Economic Evaluation of Ground Water Use in Massachusetts Valuation of Benefits and Costs of Wetland Preservation -- Robert H. Forste

Private Outdoor Recreation Operations and Public Policy in the Connecticut Valley Region of Massachusetts (Hatch 269) John H. Foster with Cornelis Corssmit

Water Resources Center Wetland's Project -- Foster

Analysis of Effectiveness of Public Programs to Increase Rice Production in Ceylon -- Foster with Bernard Dissanayake

Analysis of Manpower Training Program Results in Franklin County, Massachusetts -- Foster with Donald McClelland

The Competitive Position of Massachusetts Agriculture: Its Preservation and Improvement (Hatch 282) Earl I. Fuller

Economics of Grower Operated Wholesale Flower Delivery Routes -- Elmar Jarvesoo

Livestock Production in the USSR -- Jarvesoo

Economic Effects of the Wholesome Meat Act Upon the Meat Industry in Massachusetts -- Theodore W. Leed with Richard Tomeo

Economic Effects of Damage to Grocery Products in Wholesale Food Distribution Warehouses in New England -- Leed with Carl O'Connor

Operating Performance of Food Stores in Low-Income Areas -- Donald R. Marion

Impacts of Regulations Affecting Competition, Industry Organization and Practice on the Performance of the Fluid Milk Industry (Hatch 286, NEM-40) Sargent Russell

A Simplified Accounting System for Massachusetts Farmers -- H. G. Spindler

Alternative Marketing Systems for Eggs in the Northeast -- David A. Storey

Economic Analysis of the Market Structure of the Commercial Fishing Industry in the Northeast (Hatch 268, NEM-37) Storey

Estimation and Use of Residential Water Demand Functions to Increase Consumer Welfare -- Divakar Chandran

Economic Analysis of Coordinated Watershed Planning (Hatch 281) J. B. Wyckoff

Suburban Land Conversion -- A Case Study of the Springfield SMSA (Resources for the Future Grant) Wyckoff with Dale Swanson

DEPARTMENT OF AGRICULTURAL ENGINEERING

Heat and Mass Transfer in Food Engineering (Hatch 218) J. W. Zahradnik

Mechanical and Physical Properties of Forage Related to Processing, Preservation, and Utilization (Hatch 190) L. F. Whitney

Mechanical Injury to Processed Fruits and Vegetables During Handling (Hatch 291) S. W. Fletcher

Engineering Evaluations of Food Containers (State) Fletcher and G. A. Fitzgerald

Oyster Propagation in Packed Towers (State, COMTEC, Graduate Council, Town of Wareham) J. W. Zahradnik

Analysis and Design of a Waste Disposal System for Duck Farms (State) R. G. Light

Closed Systems for Animal Sewage Treatment (Water Resources Research Center WR-9) J. T. Clayton

Physiological Response of Chickens to Varying Environments (Hatch 288) Clayton

Chemical and Non-Chemical Measures for the Protection of Perishable Food Comodities in Marketing Channels (Hatch 260) E. A. Johnson and J. T. Clayton

Improvement in Efficiency of Harvesting Apples (Hatch 265) L. F. Whitney

Subsurface Irrigation Systems: Design Parameters (Agway, Inc.) Whitney

CRANBERRY STATION

Translocation of Pesticides from Cranberry Bogs to Their Surroundings -- K. H. Deubert

Influence of Growth Regulators on Pesticide Uptake -- Robert Mr. Devlin

The Ecology of Selected Submerged Aquatic Weeds -- Devlin

The Effect of Natural and Artificial Plant Growth Regulators on Fruit Set and Berry Size in Vaccinium macrocarpon (var. Early Black)-- Devlin

Evaluation of Procedures Leading to Pigment Enhancement in Cranberries -- B. M. Zuckerman with Devlin

The Mechanization of Cultural, Harvest and Market Preparation Operations in Cranberries (Hatch 51) J. S. Norton

Injurious and Beneficial Insects of Ericacious Plants (Hatch 119) W. E. Tomlinson, Jr.

NSF GB-6182 -- B. M. Zuckerman

Ocean Spray Inc. Grant -- Zuckerman

PHS R01 ES 001-20-01 Tox -- H. B. Gunner with Zuckerman

Regional Research Project NE-64 -- Zuckerman

Grants with Vanderbilt Chemical Co. and Chevron Chemical Company to Evaluate Fungicides -- Zuckerman

DEPARTMENT OF ENTOMOLOGY

Maple Decline (McIntire-Stennis 1) W. B. Becker

Tri-carboxylic Acid Cycle Intermediates in Normal and Anesthetized Insects (Hatch 299) L. J. Edwards

Biological and Biochemical Interactions of Larval Mosquito Populations (Harch 253) T. M. Peters

Pesticide Residues in or on Raw Agricultural Commodities (Hatch 58) F. R. Shaw

The Role of Parasites and Predators in the Control of the Alfalfa Weevil (Hatch 279) Shaw

DEPARTMENT OF ENVIRONMENTAL SCIENCES

Biology and Control of the Two-Spotted Spider Mite (Hatch 248) W. D. McEnroe

Study of the Chronic Effects of Low Levels of Air Pollutants upon Floricultural and Vegetable Plants in the Northeast (PH 22-68-29) W. D. Feder

Air Pollution in the Northeast: Effects of Air Pollution Upon the Growth and Productivity of Plant Species in the Northeast (Hatch 272) Feder

The Evolution of the American Maydeae (NSF Grant GB-6715) W. C. Galinat

The Cytogenetics, Morphology and Evolution of Corn and Its Relatives (Hatch 258) Galinat

Microbial Intervention in the Eutrophication Process (B-006 Mass.) W. Litsky

Methods for Determination of Fecal Streptococci Source (16030 DVB F.A.) Litsky

Investigations on the Survival of Bacteria under Various Environmental Conditions (John W. Hill Foundation) Litsky

The Influence of Rhizosphere Microflora on the Transformation of Insecticides by Plants -- H. B. Gunner

Nitrogen Transformations by Arthrobacter -- Gunner

Microbe-Nematode Interactions in Pesticide Degradation -- Gunner and B. M. Zuckerman

Microbial Degradation of Organic Pollutants of Industrial Origin -- Gunner

Studies on Slime Infestations in the Connecticut River -- W. S. Mueller

A Study Testing the Bactericidal Value of Chemical Compounds for Disinfecting Cutting and Grinding Fluids -- Mueller

Studies of Mycobacterial Lipid (N.I.H. grant) R. W. Walker

Studies of Mycobacterial Lipid (National TB Assoc.) Walker

DEPARTMENT OF FEED, SEED, FERTILIZER CONTROL

Pesticide Residues In or On Raw Agricultural Commodities (NE-36) J. W. Kuzmeski

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

Sterilization and Inhibitors in Food Processing (Hatch 66) C. R. Stumbo

Role of Volatile Organic Compounds as Food Flavor Components (Hatch 191) I. S. Fagerson

Quality Maintenance, Measurement, and Control in the Marketing of Vegetables, Including Potatoes (Hatch 192; NEM-30) F. J. Francis and F. M. Clydesdale

Effect of Low Temperatures on Quality and Marketability of Food Products (Hatch 194) F. W. Sawyer

Enzymatic Control of Quality Factors in Edible Plant and Animal Materials (Hatch 197) H. O. Hultin

Effect of Thermal Processing on the Chemical Composition of Foods (Hatch 198) W. W. Nawar

Flavor Modifying Effects of 5'-Ribonucleotides in Radiation Sterilized Meat and Meat Products and the Stability of 5'-Ribonucleotides Under Irradiation (Takeda U.S.A., Inc.) F. M. Sawyer

Physical and Chemical Characteristics of Free and Stretched Rabbit Muscle (Faculty Research Grant) E. M. Buck

Fresh Meat Packaging Study (Extension Service) I, II, & III - Director T. W. Leed, Part II, Quality Phase -- Buck

Spinning of Edible Protein Fibers and Incorporation and Evaluation of Flavors in the Fibers (Keratene Company) K. M. Hayes and W. B. Esselen

Kinetics and Mode of Chemical Vapor Phase Sterilization (Public Health Service UI00092-06 and 07) C. R. Stumbo

Bacteriaphage Typing of Psychrophiles (Public Health Service) R. E. Levin

Fisheries Sanitation - Improving Product Quality and Shelf-Life of Massachusetts Commercial Fishery Products (Mass. Dept. of Nat. Res. Project No. 3-35-R) Levin and W. B. Esselen

Studies on the Mechanism of Fish Preservation by EDTA (Bur. Comm. Fisheries) Levin

Effect of Ionizing Radiation on Food Lipids (Public Health Service UI00148) W. W. Nawar

Pigment Studies in Processed Vegetables (Public Health Service UI00145-06) F. J. Francis and F. M. Clydesdale

Pigment and Color Studies in Cranberries (Ocean Spray Cranberries) Francis and Clydesdale

Improvement and Stability of Quality in Processed Foods (Glass Container Manufacturers Institute, Inc.) Francis, Clydesdale and W. B. Esselen

Thermal Degradation of Edible Fats (Public Health Service UI-00091) I. S. Fagerson

Distribution of Glycolytic Enzymes in Skeletal Muscle (Public Health Service GM-12064) H. O. Hultin

Food Research Pre-doctoral Fellowship (Campbell Institute for Food Research) F. J. Francis and M. S. Starr

DEPARTMENT OF FORESTRY AND WILDLIFE MANAGEMENT

Genetic and Environmental Adaptability of Forest Trees (Hatch 78) D. L. Mader and J. C. Mawson

Direct Seeding; Influence of Birds and Mammals on Forest Regeneration (Hatch 136) H. G. Abbott

Etiology of Maple Tree Decline in Massachusetts (McIntire-Stennis 1) D. L. Mader

Maple Tree Root Initiation, Development, and Geotropic Response (McIntire-Stennis 9) B. F. Wilson

Forest Manipulation with Herbicides (Smith-Lever) W. P. MacConnell

Evapotranspiration, Runoff, Storage, and Drainage Characteristics of Forest Soils (McIntire-Stennis 2, Smith-Lever, Forest Service) D. L. Mader and MacConnell

Consumer analysis of recreational activities (Hatch 264) R. S. Bond

Use of Aerial Photographs to Evaluate the Recreational Resources of a River (McIntire-Stennis 8) W. P. MacConnell

Management of Ski Areas (Smith-Lever) MacConnell

Demand for and Use of Camping Facilities in Massachusetts (Smith-Lever) R. S. Bond

Programmed Selection of Optimum Uses of a Small Water Resource Subject to Simultaneous Demand Stresses (Office of Water Resources Research) C. A. Carlozzi and Sub-project Leaders R. B. Brander, W. Rice, R. J. Reed, J. C. Mawson, J. B. Wyckoff

Enhancement of Ecologic and Aesthetic Values of Wetlands Associated with Interstate Highways (OWRR) Carlozzi and Sub-project Leaders Brander, Reed, J. Fabor, L. C. Mainzer

Rheological Behavior of Wood Restrained from Normal Swelling (McIntire-Stennis 3) R. B. Hoadley

Technological Properties of Wood from Forest Tree Species in the Northeast (McIntire-Stennis 4) H. B. Gatslick, W. Rice, W. S. McNamara

Cost Determining Procedures in the Furniture Industry (Forest Service) Gatslick

Potential of Forced-Air Drying of Eastern Spruce and Eastern Hemlock (Forest Service) Gatslick

Evaluation of Humidity Sensors for Measuring Wood Moisture Content (Delmhorst Instrument Co.) W. Rice

Structure of the Wooden Pallet Industry in the Northeast (Forest Service) R. S. Bond

Control of Bird Depredation (Hatch 79) F. Greeley

Food and Shelter Requirements of the Ruffed Grouse in Relation to Energy Regimes (McIntire-Stennis 5) R. B. Brander

Bioenergetics of the Porcupine — Brander

Avian Chemical Inhibitors of Reporduction (U. S. Fish and Wildlife Service) D. K. Wetherbee, B. C. Wentworth

Developing a More Suitable Pheasant for Massachusetts (F&WLS, Mass. Division of Fisheries and Game) Wentworth

Status of White-Tailed Deer on Nantucket Island (Mass. Div. F&G) W. G. Sheldon

Limiting Factors for Black Ducks in Massachusetts (Mass Div. F&G) Sheldon

Life History and Behavior of the American Woodcock (F&WLS) Sheldon

Productivity of Canada Geese; Reneating in Manitoba (F&WLS, Webster Wildlife Foundation) Sheldon

Utilization of Wetlands in Connecticut Valley (Mass. Div. F&G) Sheldon

Substitutes for Lead Shot (F&WLS, University) Sheldon

Characteristics of Massachusetts Waterfowl Hunters (University) F. Greeley and W. G. Sheldon

Biology and Behavior of Beaver (F&WLS, NDEA) J. S. Larson

Cellular Indices of Sex in Beaver (F&WLS) Larson

Age Determination in Sika Deer (F&WLS) Larson

The American Shad and Related Studies in the Connecticut River (F&WLS, Mass. Div. F&G) J. A. McCann, R. J. Reed, C. F. Cole

Studies of Farm and Other Warm Water Ponds in Massachusetts (Water Resources Research Center, F&WLS, Mass. Div. F&G) McCann, Reed

Significance of Chlorinated Hydrocarbons in the Life Cycle of the Winter Flounder (Water Pollution Control Adm.) C. F. Cole

Ecology of the Weweantic River Estuary: Smelt, Cunner, Tautog, Tomcod (Mass. Div. F&G, F&WLS, WRRCtr) Cole

Effects of Pollution on the Aquatic Life in the Millers River, Mass. (WRRCtr) R. J. Reed

DEPARTMENT OF LANDSCAPE ARCHITECTURE

Follow-up Study of the "Selected Resources of the Island of Nantucket" Report by the University of Massachusetts -- Hugh Davis

The Great Meadows of the Connecticut River -- Julius Fabos

Landscape Design Criteria for Highway Wetlands and Impoundments -- Fabos

Evaluation Reports on Plant Materials Obtained from NE-9, Project No. 14, Domestic Plant Exploration, Mt. Washington, N.H., 1965 -- Tom Hamilton

1967 and 1968 Hardiness Trials of Some Selected Ornamentals -- Hamilton

Fifty of the Best Ornamental Crab Apples, Visual Analysis of Leaves, Flowers and Fruit in Cooperation With the Arnold Arboretum -- Hamilton

The Use of Polyesters in Filling Tree Cavities -- Gordon King

Shade Tree Selection and Evaluation for New England -- King

DEPARTMENT OF PLANT AND SOIL SCIENCES

Neutralization Reactions in Acid Soils and Their Effect on Plant Growth (Hatch 219) J. H. Baker

Plant and Nutritional Variables Associated with Ammonium Assimilation by Plants (Hatch 262) A. V. Barker and D. N. Maynard

A Study of the Role of Potassium in Ammonium Utilization (Massachusetts Society for Promoting Agriculture and the American Potash Institute) Maynard and Barker

Post-Harvest Physiology of Pomological Fruits (Hatch 187, NEM-27) W. J. Bramlage, F. W. Southwick and W. J. Lord

Morphological and Physiological Responses of Perennial Forage Grasses (Hatch 29) M. Drake and W. G. Colby

Relationship of Mineral Nutrition to Physiological Disorders in Apples (Hatch 96) Drake, J. H. Baker, L. F. Michelson, W. J. Lord and J. F. Anderson

Physiology of Winter Injury to Woody Ornamentals (Hatch 207) J. R. Havis

Genetics and Breeding of Sweet Corn (Hatch 93, NE-32) W. H. Lachman

Effect of Certain Pesticides on Plant Metabolism (Hatch 252) Marsh, Jr. and W. J. Bramlage

The Relationship Between Nutrition and Plant Physiological Disorders (Hatch 137) D. N. Maynard

Soil Testing for Plant Available Boron in Greenhouse Soils -- W. A. Rosenau

The Influence of Light Intensity on Flower Bud Initiation in Easter Lily -- G. B. Goddard and Rosenau

Comparison of Cold Frame Cooling and Constant Temperature Refrigeration on Flowering of Easter Lily -- Rosenau and Goddard

The Interaction of Calcium, Phosphorus and Boron in Leaf Burn of Easter Lilies -- Rosenau

An Examination of Potential Tracers to Depict the Movement and Behavior of Water in Soils (Hatch 301) G. L. Stewart

Pickling Cucumber Research (Oxford Pickling Company) C. L. Thomson

Weed Life Cycles as Related to Weed Control in the Northeast (Hatch 212, NE-42) J. Vengris

Roadside Development Research (Mass. Dept of Public Works and the Federal Bureau of Roads) J. M. Zak, J. Troll, J. R. Havis and H. Yegian

DEPARTMENT OF PLANT PATHOLOGY

Maple Decline (McIntire-Stennis 1) Walter M. Banfield and Francis W. Holmes

Transmission of Physiological Effects of Pome Fruit Viruses (Hatch 231) George N. Agrios

Virus Diseases of Hardwoods (Harch 297) Agrios

Biology of the Plant Parasitic Nematode, Pratylenchus penetrans (Hatch 290) Richard A. Rohde

Lophodermium Needle Cast Disease & Ozone Damage of White Pine (Hatch 298) Walter M. Banfield

Pathology of Wilt Diseases (Hatch 110) Francis W. Holmes and Malcolm A. McKenzie

Study of Fungus and Insect Pests of Trees in Massachusetts (State 228) McKenzie

Phenolic Compounds Associated with Injury Caused by Plant-Parasitic Nematodes (NSF, GB 6570) Richard A. Rohde

DEPARTMENT OF VETERINARY AND ANIMAL SCIENCES

Endocrine Factors Affecting Reproduction in Cattle (Hatch 33, NE-41) D. L. Black and G. R. Howe

Respiratory Diseases of Poultry (Hatch 111, NE-5) O. M. Olesiuk and G. H. Snoeyenbos

Infectious Diseases Affecting Reproduction in Cattle (Hatch 158, NE-40) Russell E. Smith and Iona M. Reynolds

Avian Lymphomatosis (Hatch 203) Martin Sevoian

Endocrine Physiology Associated with Nutritional-Environmental Interactions in Fowl (Hatch 250) D. L. Anderson

Salmonellosis of Poultry (Hatch 278, 716-15-14) G. H. Snoeyenbos

Genetic Bases for Resistance to the Avian Leukosis Complex (Hatch 287, NE-60) J. Robert Smyth, Jr. and T. W. Fox

Relationships Between Genetic Markers and Performance in Dairy Cattle (Hatch 289,NE-62) S. N. Gaunt and D. J. Hankinson

Physiological Bases of Inherited Differences in Growth Rate (Hatch 294) W. J. Mellen and A. J. Farrington

Mammalian Reproduction (NIH) D. L. Black

Effect of an Intra Uterine Device on Oviduct Secretions (NIH) Black

Physiology of the Mammalian Oviduct (NIH) G. R. Howe

Fetal and Placental Pathology Using FA Techniques (NIH) R. E. Smith

Control of Salmonella (NIH) G. H. Snoeyenbos

Hyperbaric Effects of High Pressure Exposures on Endorcine Physiology (ONR) G. R. Howe

Spermatozoan and Ovum Transport in the Female Reproductive Tract (Whitehall Foundation) Howe

Salmonella of Poultry and Thermal Death Time of Salmonella in Dry Feeds (Fats and Proteins Research Foundations) G. H. Snoeyenbos

Cooperative Extension Service Highlights

A seminar on Problems of Resource Development to train state and federal staff with responsibilities in natural resource use and development was a new and significant example of Cooperative Extension education. Program emphasis was on recognizing and understanding the numerous and interrelated problems of our environment and the potentials for applying knowledge to solve them.

Course content taught by 15 College faculty in 16 three-hour classes included rural-urban adjustment, biological consequences of pollution, the scope of ecology, the urbanized environment and case studies of successful planning. Four departments contributed to the 48 hours of instruction.

A $144,000 grant from the U. S. Department of Agriculture enabled extension to expand its nutrition work with low-income families starting in January. The objective is to teach homemakers how to plan, buy and use food more effectively. Non-professional extension assistants were recruited, trained by county home economists, and employed to teach disadvantaged homemakers in their neighborhood.

The program in 15 selected communities exceeded all expectations. Actual teaching by the assistants did not start until February, and by June 1 more than 1500 families and an estimated 7,500 persons had received help. Congress has yet to approve an expected budget for the program in fiscal 1970.

An Urban 4-H Leader's Institute was held for 25 volunteers who are aiding in the 4-H programs among low-income youth. These leaders, mostly Negroes, were selected specifically to receive training helpful in expanding 4-H urban areas. The two-day Institute was conducted jointly by the Extension Division of 4-H and Youth and the Human Relations Center of Boston University at North Andover.

The purpose of the institute was to provide an opportunity for black and white 4-H leaders from both urban and suburban communities to be able to discuss, in depth, many of the common concerns facing all 4-H leaders as they develop more worthwhile programs in the 70's.

EDUCATIONAL WORK IN AGRICULTURE

Extension work was undertaken in forest product marketing and technology, forest management, and community and resource development. Separate emphasis is being placed on educational activities for planners concerned with community development and environmental management. New regional specialists have been recruited and a statewide program put into effect. The objective is to assist regional and community agencies solve their resource and environmental problems through better planning and decision-making.

Work with the animal industries of the Commonwealth continues to be refined and expanded. Meetings, workshops and seminars for persons involved in the animal industry are being augmented with adaptability studies in cooperation with regional extension specialists. These studies provide original data and observations for publications of substance on topics important to the animal industry.

A series of pest control guides for southern New England were prepared in conjunction with faculty in Rhode Island and Connecticut. The technical nature and legal restrictions of pesticide application make accurate recommendations a necessity for commercial crop production.

More than 600 persons attended the 1969 Turf Conference with faculty from the Northeast presenting papers along with national and international industry representatives and golf course supervisors. Program content dealt with insect, disease, nutritional, and other cultural and management problems related to turfgrasses.

Three seminars were conducted for food processing personnel in Massachusetts and New England. "Packing Foods in Glass" presented technical and marketing applications of glass containers for the packaging of foods; a two-day training course was held for Division of Dairying and Animal Husbandry personnel, Massachusetts Department of Agriculture; and "Color Measurement in Foods" offered a course presenting theory and practice of colorimetry. College faculty

served as instructors for the seminars, which attracted participants from England and Peru.

Three seminars on Fish and Seafoods in Food Service Operations -- a new area of work -- were held in Waltham, Westboro and Springfield. Ten, 2-hour sesssions were conducted with instructors from the College and industry. The Bureau of Commercial Fisheries of the U. S. Department of the Interior cooperated.

Another new area of extension effort was the joint sponsorship of the First New England Motel-Resort Workship in November of 1968.

National recognition was accorded a number of extension publications produced by the Department of Hotel and Restaurant Administration faculty. FAST FOOD MAGAZINE, one of the top three trade publications, published 12 of the publications in modified form from August 1968 through February 1969.

A demonstration is underway to "show" the Massachusetts shell fish industry the methods and techniques of producing certain species under modified environmental conditions intended to minimize predator-loss and optimize growth rate. The demonstration will continue until June 1970, culminating in a meeting and field day for shell fishermen.

The following examples indicate significant educational efforts in the area of economics: Three, five-day institutes in Supervisory Management Training; 14 milk marketing schools on Price Determination and Bargaining Power; a computer simulation of a farm management game developed to simulate management problems in the production of greenhouse products, and a simulation to teach management to operators of dairy firms. Also a series of seminars for feed mill operators involving New Hampshire and Maine; an adaptive study designed to establish and evaluate a practical managerial training program for black entrepreneurs located in the ghetto; a Federal Extension Service contract to develop an educational program for assisting food retailers in low income areas; and a cooperative study with the Federal Extension Service on expanding our foreign agricultural markets.

An extension course pertaining to greenhouse management practices was conducted for greenhouse-gardener trainees of the Boston Park Department. Five one-hour lectures were presented January to March by College faculty.

Massachusetts dairymen continue to increase milk production by utilizing extension-supplied inheritance information in their breeding programs. The state ranks nationally among the top four states in milk production per cow. An expanding Production Testing Program aids dairymen make better decisions on how to feed, breed and manage their dairy herds.

The right variety of fruits and vegetables for our environment and market is of importance to producers. Extension keeps growers informed of new developments through variety trials at field stations and on growers' farms.

Production of greenhouse tomatoes and cucumbers has grown steadily in the past few years because of increasing pressure on land use due to increasing population and expanding industry. Extension's goal is to upgrade producer know-how of greenhouse production as rapidly as possible.

A better understanding of the functions of plants in relation to their environment is being provided flower growers via educational sessions pertaining to the role of photosynthesis, aspects of short and long-day plants and air pollution. As a result, growers are enlarging their distant markets because of their higher quality products, which are in better condition for a longer seasonal period.

EDUCATIONAL WORK IN HOME ECONOMICS

A special Task Force on Food and Nutrition for low-income families was appointed to evaluate the present programs and recommend changes, redirection and relocation of resources to expand and improve efforts to help eliminate hunger and malnutrition among such families in Massachusetts.

About 12.4% of the population of the Commonwealth or 160,470 families fall

below the Council of Economic Advisors' poverty boundary of $3,000 annual income. The following examples show educational work being done with these low-income or poverty groups:

1. A study reveals that the poor do pay more for goods and services because of their lack of economic freedom, low level of education, and other factors which help preserve a retail atmosphere which often embodies deceptive pricing, limited choice in quality and variety of goods and services and costly repairs. This study is the basis for the development of more realistic and meaningful programs being conducted in consumer education and protective services for the poor.
2. A "Do the Poor Pay More" institute for professionals and others working with low-income families in western massachusetts to explore market policies and practices affecting low-income consumers.
3. An institute on the "Price of Poverty" including course content on the market and the low-income consumer, welfare guidelines-confrontation of values, the rights of the poor, and low-income community credit unions.

A meeting for builders of residential dwellings in the state to explore needs and supply, social aspects of shelter for urban concentrations, and restrictive influences to adequate housing. Current programs include nine in housing and six in the social aspects of the community.

Work with the handicapped, including the blind, finds state and county extension specialists teaching classes in the areas of food preparation, laundry methods, ironing techniques, cleaning products and living in a world of color. Massachusetts has approximately 10,000 blind persons.

More than 200 persons attended the 1969 University Day for Women featuring eight workshops, which explored such topics as student dissent, poverty, blacks on campus, drugs, and urban growth.

EDUCATIONAL WORK IN 4-H AND YOUTH PROGRAMS

The Urban 4-H Program in Suffolk County, Worcester and Springfield continues to expand. Staff in these areas has been increased resulting in more youth involved in 4-H, and a greater diversification of programs. About 1,000 youth living in low-income areas of these cities are now actively involved in 4-H.

Participation in the 53rd Annual State 4-H Conference exceeded all previous records for young people and adults with 467 persons participating in the five-day event. Eighteen delegates and leaders from the five other New England states also attended--the first such instance in more than a decade.

Twenty-nine volunteer 4-H leaders attended a week's training session at the National 4-H Center in Washington, D. C. These leaders met with delegates from five other states to plan for the expansion of the 4-H program, especially among disadvantaged youth.

The Massachusetts 4-H Foundation continues with the development of the State 4-H Center in Ashland. About $300,000 has been received or pledged for this project by individuals and corporations. Nearly $20,000 has been raised by 4-H members. The Foundation has employed a second full-time staff member to meet its increasing role in supporting the 4-H program.

About 700 high school students and science teachers participated in the Third Annual Science in Action Conference. This career guidance event demonstrates the use of scientific knowledge and equipment in solving problems in our society.

Special Programs

CIVIL DEFENSE TRAINING

The Extension Civil Defense Training Program produces growth in emergency preparedness in many communities throughout the state. Personnel participating in these training programs are effectively employing principles of management and applying techniques of emergency preparedness from positions as elected and appointed officials. With knowledgeable trained personnel and developed plans of action, communities have increased their ability to cope with natural or man-made disasters.

Students or clientele participating in the Civil Defense Training Program include representatives from industry, business, state and federal agencies, community school systems and community leaders.

A total of 23 training courses and conferences with a combined attendance of 621 were held as follows:

	Number of Courses	Attendance
Shelter Management Instructor	7	171
Civil Defense Management	3	49
Radiological Monitor Instructor	4	77
Radiological Defense Officer	3	45
Emergency Operations Simulation	4	218
Conferences for Officials	2	61
	23	621

It is anticipated that future funding for continuing contracts will see an increased allocation of funds and expansion into other training areas such as an Executive Development Program for professionals in the field of Civil Defense.

CENTER FOR INTERNATIONAL AGRICULTURAL STUDIES

The Center administered two Agency for International Development (AID) contracts, initiated a Peace Corps contract, and started three other on-campus programs.

UMass/AID/ Malawi Project

Under this contract the College participates in the agricultural development of Malawi, Africa by:

1. The education of nine students from Malawi in the B.S. degree program. Five have been graduated and four will complete their requirements in 1970.

2. Supplying faculty for Bunda Agricultural College in Lilongwe. Three faculty completed tours of duty, and four others are now teaching: Wallace Black, animal science; Francis G. Mentzer, extension lecturer and chief-of-party; Joseph Keohane, biology; and John Smagula, chemistry. Dr. Black's tour of duty ends in August 1969, and the others in 1970.

3. Establishment of a Farm Credit System to be administered by the Malawi Ministry of Agriculture. This assignment was completed in November, 1968 with Kenneth Boyden as adviser for four years.

International Participants Program

This contract program is conducted with AID and the Foreign Agricultural Service of the USDA and has three functions:

1. To train on a short-term basis participants with supervisory positions in the ministries of agriculture and education in their respective countries. Sixteen participants from six different countries were trained during the year plus programs for an agricultural graduate from France, and a University of Utah graduate.

2. To administer the graduate training, in various departments of the College, of AID-sponsored personnel. Six students, three from Korea, one from Brazil, and two from Indonesia, are enrolled.

3. To develop special programs for short-term professionals visiting the College of Agriculture. These included John Banda, registrar, University of Malawi; Dr. S. S. Johl, chairman, Department of Economics and Sociology, Punjab Agricultural University, India; Dr. G. C. Drimmelen, agricultural counselor, Embassy of South Africa, Washington, D. C.; The Hon. A. J. Mtaliki Banda, Malawi's Deputy Ambassador to the U.S. and Minister to the United Nations; and Dr. T. C. Pinney, dean of faculty, Bunda College. The Center cooperated with the University to develop programs for: Dr. Lin Dao Yang, retired president of Chung Chi College and United Colleges of Hong Kong, China, an alumnus of the University, class of '12 and now chairman of the Mencious Educational Foundation in Hong Kong; and for 134 young Japanese men and women under Dr. Harusada Suginome, president emeritus of Hokkaido University in Sapporo, Japan, and recipient of an honorary degree from the University in 1963.

Peace Corps Intern Program

Nineteen seniors in the College and the School of Home Economics completed training in the Peace Corps Intern Program in agriculture, one of seven in the U.S. and the only one training students for work in Africa.

Twelve of the group were assigned to Kenya to work in forestry, range management, fisheries development and nutrition. Three will teach in Bunda Agricultural College, Malawi, three are assigned in Sierra Leone, and one in Dahomey.

Degree Programs in International Agriculture

Undergraduate and graduate instructional programs have been developed, but student recruitment has not been undertaken because of a lack of support funds. An informational brochure on the program has been prepared and numerous requests for information have been received and answered.

Research Program

A program of applied research on problems of agricultural development in close association with the graduate programs in International Agriculture are planned. Dr. Haim Gunner has been appointed Associate Director for Research. A total of 12 project proposals have been received from faculty in the College and from other University units. Support funds continue to be the limiting factor for the research program.

Seminar Program

Four seminars, three sponsored by departments in the College, were held. Subject matter included a systems approach to international resource development, wildlife and ecosystems in East Africa, the limnology of Lake Malawi and farm credit in Malawi. Three additional seminars were conducted for foreign students to acquaint them with the Land-Grant system and its operational philosophy.

Cooperative Programs

The international education group in the School of Education worked with the Center in two areas. It provided advice on the Peace Corps Intern Program and conducted several sessions. The Center worked with the group in developing a joint proposal for a new AID contract in three small African countries.

Staff Changes

Charles W. Turner resigned as Director of the Center on September 1, 1968 and was replaced by Dr. John H. Foster. Gilbert E. Mottla, associate director, was appointed Executive Director and Campus Coordinator for the two AID contracts - the Malawi Project and the International Participants Program.

TECHNICAL GUIDANCE CENTER FOR INDUSTRIAL WATER POLLUTION CONTROL

The Center established in the Institute of Agricultural and Industrial Microbiology as a clearing house of information to small industries in Massachusetts on water pollution abatement completed its first year of operation.

An institute on "Joint Waste Treatment, Municipal/Industrial" was held in March of 1969 with 200 in attendance. A 195-page Proceedings was published and distributed to registrants and made available to other interested persons. This contract with the Commonwealth Technical Resource Service (COMTECH) program of the U. S. Department of Commerce has been renewed for a second year. Increased funds will enable the Center to publish a monthly Newsletter and conduct regional seminars as well as a second statewide institute.

The name of the Center has been changed to the Technical Guidance Center for Industrial Environmental Control to enable it to cope with problems of air pollution and solid waste, as well as water pollution.

DRUG TOLERANCES IN ASSAY OF FEEDS

Data published in the Collaborative Check Sample Committee Report, official publication of American Feed Control Officials, 1969, has been prepared and used

by John W. Kuzmeski, chief chemist, to establish analytical drug tolerances in the assay of feeds for many drugs including antibiotics, hormones and growth promotants.

These tolerances have been recognized internationally, being accepted by the majority of the states, Canada and Puerto Rico. As a result of this work, a formula has been established for the setting of analytical tolerances not only for all drugs but also for protein, minerals, vitamins and other factors for which feeds are analyzed.

The Bureau of Veterinary Medicine, Federal Food and Drug Administration, is considering the alteration of its analytical tolerances to conform to those established by Kuzmeski.

Statutory Control Programs

MYCOPLASMA GALLISEPTICUM TESTING
Department of Veterinary and Animal Sciences

A Mycoplasma gallisepticum (MG) control program was made available on July 1, 1967, to the Massachusetts poultry industry by the State Department of Agriculture. The Department of Veterinary and Animal Sciences has been designated as the Official Testing Laboratory.

A total of 423,159 tests was conducted during the 1967-1968 testing season. Fifty-four chicken breeder flocks, 270,637 adult birds, were tested in toto and found free of M. gallisepticum. Thirty-eight of these flocks were monitored on a 5% basis one or more times at 30-90 day intervals and no MG-reactors were detected in 61,759 birds tested. Six turkey flocks (3,803 birds) and 3 pheasant flocks (9,910 birds) were total or random tested and found free of M. gallisepticum. Two turkey flocks (210 birds) were tested and found positive for M. gallisepticum. A total of 76,840 random tests were conducted on day-old chicks, growing birds, and mature chickens, of which 10,454 were positive.

MASTITIS TESTING
Department of Veterinary and Animal Sciences

The major emphasis of the mastitis laboratory is directed toward the eradication of Streptococcus agalactiae mastitis. Enrolled herds are intensively retested until declared free of this infection. Thereafter these herds are retested semiannually to monitor their status. A secondary emphasis is placed on culturing milk samples from problem cows to identify the mastitis pathogens present. A limited number of drug sensitivity tests are also performed on isolated pathogens.

During 1968, 56 herds were initially tested, 37 of which were found to contain S. agalactiae-positive cows (66.0%). This percentage compares closely with the number of positive herds identified annually for the past 12 years.

A total of 35 herds containing 1,561 cattle was declared free of S. agalactiae during the year. The mean herd size was 44.6 cows and an average of 14.2 head were initially found infected (31%).

Semiannual retesting in 258 herds disclosed the fact that 13 had become reinfected (5.0%). In the majority of these cases, infected replacement animals had not been tested prior to entering the milking line.

Diagnostic testing was performed in 87 herds involving 565 head at the request of veterinary practitioners, local health boards, or dairymen. Although S. agalactiae remained the most common pathogen isolated, Streptococci other than S. agalactiae, Staphylococci, coliforms, nocardia, C. pyrogenes, and yeasts were problem organisms in many herds.

PULLORUM DISEASE ERADICATION
Department of Veterinary and Animal Sciences

In the 1967-1968 testing season, 244 chicken, turkey, and game bird flocks were tested representing 408,202 samples. No pullorum or fowl typhoid

infection was found among the commercial breeding flocks tested. Pullorum infection was detected in three fancier flocks and was listed as presumptive in a fourth flock. The infection has been eliminated in these flocks by retesting.

Paratyphoid infection was detected in ten chicken flocks, one turkey flock, and one pheasant flock tested for pullorum disease. From chickens there were 3 isolations of S. typhimurium, 2 each of S. enteritidis and S. heidelberg, and 1 each of S. senftenberg, S. tennesee, and S. thompson. From the turkey flock S. saint paul was recovered and S. typhimurium was recovered from the pheasant flock.

FEED AND FERTILIZER LAWS, SEED LABORATORY

Major accomplishment is necessarily the investigation of the quality of feeds, fertilizers and seeds sold in the State.

Other activities include toxicological tests on viscera of animals suspected of being poisoned, pesticide residue determinations in or on forage crops and other materials, soil tests, germination and identification of seeds for other departments.

Analytical services of various kinds are provided for other departments of College of Agriculture.

DAIRY LAWS

This includes the calibration for accuracy of all apparatus and tests bottles used by inspectors testing milk and cream when tests are used as a basis for selling these products. Certificates of competency in testing milk and cream are awarded to individuals who pass an examination given by the Experiment Station inspector or who pass a short course given by the Stockbridge School. A third function is the issuing of licenses for measuring, sampling and accepting raw bulk milk from a producer at a dairy farm to those who pass an examination.

SHADE TREE LABORATORIES

Control activity includes numerous biopsies of elms suspected of having Dutch Elm disease, and the handling of inquiries from individuals and communities on more than 100 other kinds of trees. A computer program was successfully completed and used to produce an annual report summarizing 12,438 tree disease diagnoses, other than Dutch Elm disease.

Diagnostic Laboratories

The College provides veterinary diagnostic services at Waltham through the Department of Environmental Sciences and at Amherst through the Department of Veterinary and Animal Sciences. Most of the poultry diagnostic work is performed by the Department of Environmental Sciences at Waltham. Poultry and large animal diagnostic services, as well as control programs are conducted by the Department of Veterinary and Animal Sciences at Amherst. A separate report of the Diagnostic Laboratories presents the detailed diagnostic activities of both departments.

SUMMARY

1. Diagnostic Laboratories

During the calendar year January 1, 1968 through December 31, 1968, a total of 7975 avian and mammalian specimens in 1162 consignments was submitted for laboratory examination. Specimens submitted were as follows:

AVIAN	Amherst	Waltham
Chicken	1888	3344
Turkey	121	140
Pheasant		78
Duck		44
Pigeon	1	67
Miscellaneous (17 species)	18	78
MAMMALIAN		
Cattle	1560	
Sheep	24	
Swine	287	
Goats	27	
Horses	51	
Miscellaneous (18 species)	108	

Future Plans and Needs

A LONG-RANGE PROGRAM FOR THE COLLEGE OF AGRICULTURE, UNIVERSITY OF MASSACHUSETTS 1969-1980

The next decade will present the College with extrordinary opportunities for distinguished public service in education, in research, and in extension. Success in fulfilling this mission will depend upon the individual and collective scholarship of the faculty, and upon the extent of their support with funds and facilities.

This statement must not be looked upon as a blueprint for the next decade. It is, rather, a thoughtfully developed set of guidelines to be used in charting the course of the College. Also, it is not intended to represent a long-range program for the Massachusetts Agricultural Experiment Station or for the Massachusetts Cooperative Extension Service. These programs will be determined to a great degree by the intent of Congress and the state legislature.

The Students

The University is the only institution in Massachusetts authorized to offer collegiate instruction in agriculture and closely related subjects, therefore it has a special obligation to all qualified students interested in these fields. These students come from urban, rural and farm families. Admission policies and instructional programs should continue to reflect an appreciation for the wide diversity of their educational backgrounds and interests.

The increasing number of applications for the freshman class and in transfers from community and state colleges indicates that by 1980 there will be 1,500 or more undergraduates and 900 or more associate degree candidates enrolled in the natural resource and agricultural sciences.

Also, students from other areas of the University can be expected to show an increasing interest in these courses.

Graduate student majors must increase to 500 or more if the needs of the ever-expanding scientific, technological revolution in the food, agricultural, and natural resource industries are to be met.

The Faculty

The recruitment of outstanding faculty will continue to be difficult because of the world-wide expansion in agricultural education and research.

1. Student-faculty ratios must be maintained at a reasonable level commensurate with the needs of quality professional education.
2. As the College adapts to new problems and reallocates its resources, individual faculty members must depart from traditional patterns. The atmosphere of free scholarly investigation will be maintained but not without due regard for a planned program of research, instruction, and extension adjusted to the needs of the State.
3. The faculty should not only be expert in their field but also should possess a breadth of learning which will enable them to maintain effective communication with the entire academic community.

Curricula Organization and Governance

The objective of this proposal is to restructure the curricula of the College into professional schools which will be more meaningful to the students than the present conglomerate and should provide them with

better educational opportunities. The administrative departments of the College shall remain as presently constituted.

The organizational pattern of the Stockbridge School, which is a school within the College, has proven to be very satisfactory, administratively and academically. Therefore, it is recommended that this pattern be expanded to include the entire academic program of the College by organizing and structuring the curricula into five professional schools as follows:

a. The Stockbridge School - to administer all of the associate degree programs of the College.

b. The Van Meter OR Clark (name to be selected by Trustees) School of Agricultural Sciences.

c. The Chenoweth School of Food Science and Technology.

d. The Holdsworth School of Natural Resources and Environmental Planning.

e. The Murray Lincoln School of Hotel and Restaurant Administration.

1. The selection and appointment of the initial faculty of each School shall be made by the Dean of the College with advice and counsel of the Department Heads, subject to final approval of the Provost and the President.

   The faculty shall elect an ad hoc nominating committee which will present to the Dean an eligible list or panel of faculty and students from which appointees can be selected for membership on the Academic Council.

The Academic Council shall present a list of three qualified, acceptable candidates from which the Director of the School may be selected by the Dean, Provost, President and Trustees.

General responsibilities with respect to formulating proposals, defining educational objectives, plans, programs, curricula and standards shall be delegated to the Academic Council of each School. Final consideration and approval shall be in accordance with Trustees' policy.

2. The Van Meter OR Clark School of Agricultural Sciences will be responsible for the undergraduate and graduate curricula in agricultural sciences. Most of the faculty will be selected initially from these areas:

   Agricultural Engineering

   Agricultural and Food Economics

   Plant and Soil Sciences

   Veterinary and Animal Sciences

   Entomology

   Plant Pathology

   Additional faculty from other areas will be selected as the need for their competencies occurs.

3. The Holdsworth School of Natural Resources and Environmental Planning will be responsible for the graduate and undergraduate curricula concerned with the use of our renewable resources. Most of the faculty will be drawn initially from the following areas:

Forestry and Wood Technology

Wildlife and Fisheries Biology

Environmental Design and Landscape Architecture

Park Administration

Resource Economics

Regional Planning

Soil Sciences

It is expected that individual faculty from Environmental Sciences, Entomology, Plant Pathology, and other departments may affiliate with the School.

4. The Chenoweth School of Food Science and Technology will be responsible for the undergraduate and graduate curricula concerned with the technology and basic sciences closely involved in the marketing, processing and distribution of food. Most of the faculty will be selected from the following areas:

   Food Science and Technology

   Food Economics

   Food Engineering

   Individual faculty from many other departments and Colleges throughout the University will be encouraged to affiliate with the program of the School while retaining their respective departmental membership.

5. The Murray Lincoln School of Hotel and Restaurant Administration will offer undergraduate and graduate professional instruction in the professional field of hotel and restaurant administration. Individual faculty from various departments will be affiliated

with the School but the initial appointees will be drawn from the following areas:

Food Science and Technology

Hotel and Restaurant Administration

Food Economics

School of Home Economics

School of Business Administration

6. Although the students will be officially admitted to and enrolled in their respective School, it is recommended that the name of the College be changed to "College of Food, Agricultural and Natural Resource Sciences" which should more adequately describe the scope of the constituent Schools. This name successfully associates the biological and economic sciences concerned with the natural resources, agricultural and food industries.
7. The faculty, the nonacademic professional and the nonprofessional staff of the College will remain members of an administrative department appropriate to their academic or professional interest. Each department will have an appointed Head responsible to the College Dean for budget and personnel. The Department Heads will work with the Directors of the Schools on all matters pertaining to the instruction program of the respective School.
8. The success of the proposed plan will be greatly affected by:
   a. The extent to which students, faculty, administrators, Trustees, and the supporting public (taxpayers, legislators) share common goals and value systems, and the extent of their participation in institutional governance.

b. The extent to which the curricula and student activities are relevant to the professional and social needs of today and tomorrow.

c. The specialization and loyalties of a faculty increasingly dependent upon external agencies for their professional achievement, recognition and economic well-being.

No one structure of curricula organization and governance is necessarily best but one thing seems clear. Traditional patterns cannot keep pace with the advances in knowledge and the increase in technological specialization. Finally, the paramount goal of all academic governance should be to provide the optimum opportunity for the students.

Program Emphasis

The College must continue to foster that sincerity of purpose and interest in undergraduate instruction which enable students not only to obtain a better education but more important to develop a high respect for knowledge and the University's role in the advancement of the public good.

1. The Schools of the College will take full advantage of the total resources of the University to provide dynamic curricula. Courses will be structured on the basis of concepts within scientific and professional discipline areas. Whenever possible and wherever appropriate, joint academic, not administrative, appointments with other Colleges will be encouraged.

2. New teaching and learning techniques will be exploited to provide effective instruction and the efficient offering of low-enrollment

as well as large-enrollment courses.

3. Increased flexibility in program planning for the individual student should replace traditional rigid curricula patterns.
4. The greatest possible boon to effective learning is the excitement of student and teacher jointly participating in research, therefore more emphasis will be placed on research for juniors and seniors. Teachers must keep up with advancing fronts of science or their teaching will suffer.
5. Student internship programs with industry and government will be developed.
6. Cooperative or complementary programs with other state universities in New England will be promoted and closer ties with the community colleges will be strengthened to facilitate the transfer of qualified students.
7. The College through its Center for International Agricultural Education will further develop integrated international agricultural programs with other educational institutions in this state and region, as well as nationally.
8. The demand for broadly trained agricultural and natural resource experts will be examined to determine if there is a need for graduate training leading to a terminal professional type degree. This degree should have particular value to many of the foreign students who wish to bet better prepared for work in the expanding agricultural industry of their countries.
9. Environmental research to improve our knowledge of the biological and economic effects of environmental change on soil, water,

plants, and animals will be an important mission of the College and will provide the support for a graduate program in Environmental Biology.

10. The extension program of the College will continue to emphasize agricultural production and marketing in proportion to the needs and number of farms. Increasing emphasis will be given to natural resource use for nonfarm purposes, and special efforts may be needed to strengthen assistance on local economic and social development projects.

11. The College will depend more and more on industrial research, commercial laboratories, and extension staff to fulfill the needs of the agricultural industry for adaptability research. The research scientists will devote most of their efforts searching for more long-lasting answers to the pressing economic biological problems.

12. The College will continue its public service role; however, it must regularly and sharply scrutinize these activities and, whenever feasible, turn routine testing and regulatory work over to state or federal agencies designed for the purpose.

Facilities, Nonprofessional Staff, and Budget

First-class scholars cannot be attracted or retained without adequate facilities and support.

1. Teaching and research laboratories must be provided for Entomology, Plant Pathology, Soil Chemistry and Physics, Plant Biochemistry and Nutrition, Landscape Architecture and Environmental Design, and Animal Physiology.

2. Greenhouse space for undergraduate, graduate and faculty research not now available must be provided at an early date.
3. Obsolete nonprofessional positions, such as farmhands, truck drivers, blacksmiths, etc., must be replaced with professional technicians capable of operating technical, scientific equipment.

-- Prepared by A. A. Spielman, Dean, with the advice and counsel of the faculty and students.

-- APPROVED by the faculty, the Alpha Zeta honorary professional fraternity, the Faculty Educational Policies Committee, and the Department Heads of the College of Agriculture.

AAS:MRE

6/5/69

Appendix

Cooperative Programs With Other Schools and Colleges Within and Without the University

Department of Agricultural and Food Economics

Training program on "Improving Investment Decisions in the Dairy Industry", with Cornell University, Pennsylvania State University, University of Vermont. (John H. Bragg)

Scientific Editor, Water Resources Research Center.
Taught Water Quality Economics course to Sanitary Engineering students. (Robert H. Forste)

Worked with Federal Extension Service to develop a linear programming algorithm suitable for remote access usage. Teaching linear programming and simulation to Springfield Bank of Cooperatives personnel. Working with Virginia Polytechnic Institute to develop a remote access computer system for use of the agricultural extension service. (Earl I. Fuller)

Cooperated with the newly created interdepartmental Soviet and East European Studies Program in developing the program and formulating the requirements for undergraduate Certificate Program. (Elmar Jarvesoo)

Joint work with Resources for the Future and the University of Delaware. Cooperated with the Federal Extension Service and the Foreign Agricultural Service on the European Economic Community Study. (J. B. Wyckoff)

Department of Agricultural Engineering

Cooperated with the Commonwealth Technical Resources Program in the development of a demonstrational project in a Shellfish Mariculture Demonstration. (J. W. Zahradnik and C. A. Johnson)

Developed a syllabus for a course in Aquacultural Engineering Systems included in the proposed program in Ocean Engineering. (Zahradnik)

Member of the staff directing programs in the Marine Sciences, specializating in Maricultural Plant Design. (Zahradnik)

Member of the Planning Board and of the Extension Committee of the New England Marine Resources Information Program, University of Rhode Island. (Zahradnik)

Cooperated with staff members of the Biology Department, Woods Hole Oceanographic Institution in the development of a research proposal in the area of Aquacultural Engineering which is in process of review and evaluation by the National Science Foundation. (Zahradnik)

Cooperated with the Department of Agricultural Engineering at the University of Connecticut in the planning and presentation of a Greenhouse Construction and Environment Control Seminar. (R. G. Light and E. A. Johnson)

Cooperated with the Extension Services of all the New England states and Eastern New York in planning and carrying out a Dairy Systems Design Short-course for more than 40 professional extensionists. (Light)

Served on the Bioengineeing Study Committee appointed jointly by the Deans of Agriculture and Engineering. (J. T. Clayton and J. W. Zahradnik)

Department of Environmental Sciences

With Bussey Institution, Harvard University. Honorary Research Fellow support comes in the form of a summer assistant and for land rental and cultural costs for a winter crop of corn in Goulds, Fla.
With Oswego State College, New York. Prof. Sherret S. Chase will grow his experimental corn at Waltham under a cooperative agreement with the University of Massachusetts.
With Fairchild Tropical Garden, Miami, Florida. A living collection of the relatives of maize is maintained here in cooperation with the F.T.G. director, Dr. John Popenoe.
With UMass.-Boston. A series of three lectures were given in Dr. L. Kaplan's course, Biol. 351, in Ethnobotany. (W. C. Galinat)

Joint ecology seminar with Smith College. (H. B. Gunner)

Acting Director of the Water Resources Research Center, September 1, 1968 to August 30, 1969.
Member, Committee on Marine Sciences.
Member, Committee on Bioengineering.
Lecturer, American University, Washington, D.C.
Adjunct Professor of Biology, Clark University. (W. Litsky)

Committee on Bioengineering. (J. A. Naegele)

Cooperative program with the Massachusetts Audobon Society in a study of pathogenic agents in wild birds. Emphasis has been directed toward the isolation and identification of pathogens communicable to men and domestic fowl. A serious parasitic infection, identified as Capillaria contorta, was encountered for the first time in the local Blue Jay population. (Diagnostic Laboratory)

Department of Feed, Seed, Fertilizer Control

Instructor at a short course in Feed Microscopy, Carleton University, Ottawa, Canada. (C. T. Smith)

Collaborative studies of new and modified analytical methods for the Association of Official Analytical Studies. (R. M. Morgan, E. F. Vlach and C. T. Smith)

Analytical service has been provided for departments of the School of Home Economics and Arts and Sciences. (Staff)

Problem solving assistance to control services in other states. (Chemists)

Extension Division of 4-H and Youth Programs

Faculty members from the School of Education, Infirmary, School of Home Economics and the Drama Department cooperated in conducting the 4-H program.

Staff assistance and other support by the Massachusetts Department of Agriculture, Massachusetts Department of Education, and Massachusetts Department of Community Affairs.

Department of Food Science and Technology

Program on color standards with Dr. F. W. Billmeyer, Jr., Rennselaer Polytechnic Institute. (F. M. Clydesdale)

Collaboration with Dr. F. P. Billmeyer, Rennselaer Polytechnic Institute, for Inter Society Color Council. (F. J. Francis)

Cooperative research with Dr. Feng, Civil Engineering Department, under contract with U. S. Army Medical Research and Development Command. (F. M. Sawyer)

Department of Forestry and Wildlife Management

Three regional research projects involving other northeastern agricultural experiment stations, and several on-campus research projects that are participated in by Civil Engineering and Geology.

Serves on the graduate faculty in Botany. (B. F. Wilson)

Department of Hotel and Restaurant Administration

Cooperated with Universities of Connecticut, Vermont and New England Council to plan and conduct the First Annual New England Motel-Resort Workshop in November 1968 at Lexington. (Staff)

Conducted Second Annual Motel-Resort Workshop planning session in May 1969 with University of New Hampshire, New England Innkeepers, Cape Cod Chamber of Commerce and New England Council. (Staff)

Department of Landscape Architecture

Division of Architecture exchange program with Hampton Institute for third year. Fourteen, fifth-year negro architecture students spent two weeks in residence at Amherst working on a collaborative design problem with graduate students in landscape architecture. The problem was centered on the Brightwood Urban Renewal Area in Springfield.

An informal faculty exchange was initiated with selected staff members in the arts at surrounding New England institutions including the University of New Hampshire and the Rhode Island School of Design.

Department of Plant and Soil Sciences

Symposium on "Plant Senescence" at Harvard University, January 1969 in cooperation with faculty from Harvard, Massachusetts Institute of Technology and University of Wisconsin. (W. J. Bramlage)

Cooperative extension programs for fruit growers in Connecticut and Rhode Island with resident faculty members. (W. J. Lord)

Program coordinator, New England Fruit Meetings, Concord, N. H., January 1969. Participating faculty from New England State Universities; Cornell University; Fruit Tree Experiment Station, Wenatchee, Wash.; Bureau of Sport Fisheries and Wildlife, Denver; and Research Station, Kentville, Nova Scotia. (Lord)

Program to develop a Horticultural or Plant Judging Contest to be included in northeastern agricultural schools judging contests. Including University of Connecticut's Radcliffe - Hicks; State University of New York agricultural schools at Delhi, Alfred, Canton, Cobleskill; Thomspon, N. H.; and Randolph, Vt. (A. P. Tuttle and J. F. Anderson)

Coordinator of Uniform Weed Control Recommendations for corn and forage crops for New England universities. (J. Vengris)

Department of Veterinary and Animal Sciences

Departmental Laboratory for Reproductive Physiology in participating with Dr. James Snedecor, Zoology; and Dr. Anthony Gawienowski, Biochemistry; in a N.I.H. Graduate Traineeship in Mammalian Reproduction. This grant provides $50,000 per year for five years to support graduate education in the area of Physiology of Reproduction. (D. L. Black)

Cooperative program in comparative leukemias with the Animal Medical Center, New York, N. Y. (M. Sevoian)

Five of the department's Federal Research Projects (Hatch) are contributing to regional research projects with other experiment stations in the Northeast.

Extension Program Leaders have a multiplicity of Extension Projects that are contributing to the educational programs for the animal industries in co-operation with other land grant universities in New England.

Summary of Faculty Publications

Department	Scientific and Technical Publications	Extension Publications	Books	Book Reviews
Agricultural and Food Economics	18	17	-	3
Agricultural Engineering	7	7	-	-
Cranberry Station	23	2	2	-
Entomology	12	50	-	-
Environmental Sciences	42	-	-	2
Feed, Fertilizer, Seed Laws	1	-	-	-
Food Science and Technology	30	3	-	-
Hotel & Restaurant Administration	2	-	-	-
Forestry and Wildlife Management	31	7	-	6
Landscape Architecture	10	-	-	-
Plant and Soil Sciences	22	17	-	-
Plant Pathology	5	8	1	-
Veterinary and Animal Sciences	41	6	3	-
Totals	244	117	6	11

Faculty Research Grants

(NUMBER AND VALUE)

Department	National Science Foundation		National Institutes of Health		Other Federal Agencies		Industry, Foundations, State Agencies	
	No.	Face Value	No.	Face Value	No.	Face Value	No.	Face Value
Agricultural and Food Economics							1	$ 43,500.00
Agricultural Engineering							1	4,000.00
Cranberry Station	1	$ 20,800.00					5	19,600.00
Entomology							2	1,375.00
Environmental Sciences	1	26,700.00	2	$ 87,823.00	6	$ 186,083.00	5	66,400.00
Food Science and Technology			6	358,647.00			7	109,005.00
Forestry and Wildlife Management	1	23,300.00			9	324,250.00	3	32,500.00
Hotel and Restaurant Administration							1	1,250.00
Landscape Architecture							4	3,000.00
Plant and Soil Sciences	1	29,110.00					8	263,782.50
Plant Pathology	1	11,600.00						
Veterinary and Animal Sciences			4	54,030.00	4	137,664.00	11	65,284.00
TOTALS	5	$ 111,510.00	12	$ 500,500.00	19	$ 647,997.00	48	$ 609,696.50

GRAND TOTAL: 84 PROJECTS. $1,869,703.50 FACE VALUE.

Faculty Participation in Public Service

John H. Foster participated in WFCR's Five College Program; two on world food and population problems and one on the life of Mahatma Gandhi; is a member of the Leverett Planning Board and the Franklin County Planning Board; and participated in "The Second Conference on U.S. Graduate Training for Foreign Agricultural Development" sponsored by the Agricultural Development Council.

Bradford D. Crossmon served as a resource panel member for the Labor Section of the New England Green Pastures Forum held at Windham College, Putney, Vt.; and as a counsel in presenting statistical data for a state-wide survey of town tree programs provided to Massachusetts Department of Parks and Forests.

N. Eugene Engel serves as secretary, New England Federal Milk Orders Committee; Chairman, New England Milk Price Forecast Committee; and was a resource panel member for the Milk Marketing Section of the New England Green Pastures Forum.

The Department of Entomology sponsored the Eastern Meeting of The National Pest Control Association. Over 100 registrants attended the 3½ day program devoted to the theory and application of pest control practices.

The Department of Landscape Architecture sponsored three major on-campus conferences: University of Massachusetts Landscape Architect Association Annual Conference; The Northeastern Parks Training Institute; and the Tree Wardens, Arborists and Utilities Conference.

W. A. Rosenau was invited to present papers at meetings of both the Connecticut State Florists' and the Maine State Florists' Association meetings.

John Zak is serving on the Scientific Advisory Committee, Cape Cod National Seashore. This Committee advises on the problems of use and conservation related to the National Seashore.

M. E. Weeks is on a one-year leave of absence at the University of Mysore, Bangdore, India. He serves with a team of agricultural scientists to institute a research program and to teach agronomy.

Members of the Department of Plant Pathology help to organize and host meetings of professional groups including The Northeast Division, American Phytopathological Society and The Five Day Conference of Tree Wardens, Arborists and Utilities. Talks and programs were presented to professional and public groups throughout the state.

Department of Forestry and Wildlife Management staff served on the following public boards, committees, and commissions: Massachusetts Board of Natural Resources, Massachusetts Advisory Committee on Conservation Education, Massachusetts Inter-Agency Recreation Advisory Council, Massachusetts Forest Industries Committee, Westfield River Watershed Association Forestry Committee, Amherst Board of Appeals (Chairman), Amherst Conservation Commission, Leverett Conservation Commission (Chairman), Amherst School Committee (Chairman), Pelham PTA (Chairman), other community committees and posts (5).

Faculty Awards, Citations and Professional Recognition

DEPARTMENT OF AGRICULTURAL AND FOOD ECONOMICS

Bell, Ellsworth W.
Fulbright Lecturer at Hokkaido University, Department of Agricultural Economics, Sapporo, Japan, 1968. Received citation from the Dean of the Faculty of Agriculture on completion of assignment.

Callahan, James W.
American Men of Science
Who's Who in the East

Crossmon, Bradford D.
American Association for Advancement of Science
American Men of Science

Engel, N. Eugene
American Men of Science
Who's Who in the East
Epsilon Sigma Phi

Fitzpatrick, Robert A.
Associate Member of Alpha Zeta, Honorary Fraternity

Foster, John H.
Associate Member of Alpha Zeta

Fuller, Earl I.
Member of Epsilon Sigma Phi

Wyckoff, J. B.
Who's Who in the East
American Men of Science

DEPARTMENT OF AGRICULTURAL ENGINEERING

Clayton, J. T. and Whitney, L. F.
Awarded scholarships to an NSF sponsored Human Engineering Short Course held at North Carolina State University, Summer of 1968.

Fletcher, S. W.
Elected to U-Mass chapter of the Society of Sigma Xi.

Zahradnik, J. W.
Presented invitational paper, "The Concept of Residence-Time Distribution and an Example of its Significance in Continuous Thermal Processing", at the Food Engineering Symposium held at MIT in January, 1969.

CRANBERRY STATION

Devlin, R. M.
Phi Sigma Honor Society

Norton, John S.
Presented invitational paper with H. M. Soule, Jr., "Cultural Practices and Mechanization of Cranberry and Wild Blackberry", at Technical Seminar sponsored by Michigan State University and U. S. Department of Labor under auspices of ASAE, Chicago, 12/'68.

Tomlinson, W. E.
Invited to attend Nova Scotia cranberry growers annual meeting at Kentfield 7/'68 to advise growers on insect control problems.

DEPARTMENT OF ENTOMOLOGY

Hanson, John F.
Consultant to U. S. National Museum on biological model under construction.

Lilly, John H.
Consultant with Ford Foundation in India for two years.

Smith, Marion E.
Chosen as member of alumni nominating committee, Phi Beta Kappa.

Wheeler, E. H.
Recipient of honorary resolutions, gold medal and $1000 from Massachusetts Society for Promoting Agriculture since announcement of retirement. Also recognized by Eastern Branch of the National Pest Control Association and the New England Vegetable Growers' Association.

DEPARTMENT OF ENVIRONMENTAL SCIENCES

Feder, W. A.
Received commendation from Senator Edmund Muskie, Maine, for participation in WCRB radio program, "You and Your Environment".

Galinat, W. C.
Named to reviewers board for the National Science Foundation in genetic biology and taxonomic biology.
Appointed as Honorary Research Associate in the Bussey Institution by the President and Fellows of Harvard University.

Gunner, H. B.
Coordinator of Research, Center for International Agriculture Studies, University of Massachusetts.
Appointed Associate Editor of Canadian Journal of Microbiology, 1969.

Litsky, W.

Editorial award for the article "Bacteriological evaluation of a new detergent disinfectant", American Hospital Association meeting, August, 1968.

Invited discussant to the Fourth International Conference on Water Pollution Research at Prague, Czechoslovakia, September, 1968.

Naegele, J. A.

Member, Boston Mayor Kevin White's Environmental Task Force on Regional Issues.

Invited Member, Joint Committee on Air Pollution, Massachusetts Legislature.

Member, Ad Hoc Advisory Committee to Commission of Public Health on SO_2 and particulate standards for air pollution control.

Chairman, Visiting Committee, Massachusetts Board of Higher Education to investigate petition of the New England Institute.

FEED, SEED FERTILIZER CONTROL

Kuzmeski, J. W.

Invited to Washington, D. C. by Bureau of Veterinary Medicine, Federal Food and Drug Administration to advise the Bureau "on recommended analytical methods and tolerances for drugs used in animal feeds and to review pertinent data on the status of ammonium sulfate under the Food Additives Amendments to the Food, Drug and Cosmetics Act." Based on data submitted, the Bureau has decided to consider ammonium sulfate as "generally considered as safe", and will permit its use in animal feeds as a source of equivalent protein from non-protein nitrogen and as a source of sulfur. The Bureau is also considering the alteration of its present analytical tolerances to those established by Kuzmeski.

Presented invitational paper "Toxicological and pesticide residue cases as they affect animal and human health" at June 1969 meeting of New England Food and Drug officials.

Smith, C. T.

Named Fellow, American Association of Feed Microscopists.

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

Clydesdale, F. M.

Presented two invitational papers: "The Importance of Color" at symposium on Fabricated Foods, New York Section of Institute of Food Technologists in New York, January, 1969; and "The Effect of Various Chemical Treatments on Color of Processed Spinach Puree" at annual meeting of American Chemical Society, Minneapolis, April, 1969.

Fagerson, I. S.

Elected Fellow, American Institute of Chemists; Accredited Professional Chemist.

Francis, F. J.

Appointed and served for third year as one of Institute of Food Technologists panel of Scientific Lecturers.

Hayes, K. M.

Fulbright Grant Lecturer and first visiting professor in Food Science, University of the West Indies, Trinidad, West Indies; Moderator, Food Update Seminar (Food and Drug Law Institute), Boston; and invited lecturer on Food Preservation Methods, University of Rhode Island and University of New Hampshire.

Nawar, W. W.

Presented 3 invited papers and lectures: "Chemical Changes in Food Components by Gamma Irradiation" at M.I.T. Seminar November, 1968; "Analysis and Detection of Radiolytic Changes in Fish Lipids" at Atlantic Fisheries Conference, St. Johns, Newfoundland, September, 1968; "Effects of High Energy Radiation in Fats" at annual meeting of American Oil Chemists' Society, October, 1968.

Sawyer, F. M.

Appointed to Institute of Food Technologists panel of Scientific Lecturers and presented 8 invited lectures to Regional Sections of the IFT throughout the country. Presented invited symposium paper at annual meeting of Institute of Food Technologists, Chicago, Illinois, May, 1969.

DEPARTMENT OF HOTEL AND RESTAURANT ADMINISTRATION

Eshbach, C. E.

Received an award from the Massachusetts Food Service Educational Council in recognition of his "contribution to the advancement of food service education in Massachusetts."

Cournoyer, N. G.

As commanding officer of the 420th MI Detachment at the University of Massachusetts received the superior unit award given by the Secretary of the Army for 1967-68.

Wrisley, A. L.

Received $2,000 grant from the National Restaurant Association to encourage his doctoral research in computer applications to the hotel and restaurant business.

Acted as program analyst and SEMIS contact in the development of a computerized State Management Information System for the Massachusetts Cooperative Extension Service.

Lundberg, D. E.

Presented invited papers at: The Club Managers Association of America Personnel Workshop in Houston and in Los Angeles; Hospital Food Service Directors Seminar at Cornell University; and Restaurant Management Seminar at Boston University.

DEPARTMENT OF FORESTRY AND WILDLIFE

Carlozzi, C. A.
Senior Research Associate, Caribbean Research Institute.

McCann, J. A.
Statistical Consultant, Hudson River Fishery Investigation and Technical Committee for the Fishery Management of the Connecticut River Basin.

Rice, W. W.
Technical Consultant, Hitchcock's Wood Working Digest.

Twelve guest papers presented at local (2), regional (8) and national (2) professional meetings and conferences; lectures were given at two institutes, two educational institutions.

DEPARTMENT OF LANDSCAPE ARCHITECTURE

King, Gordon
Honorary member of Alpha Zeta.

Otto, Raymond H.
Appointed to the original Board of Registration of Landscape Architects in Massachusetts.

DEPARTMENT OF PLANT AND SOIL SCIENCES

Barker, A. V.
Who's Who in the East
American Leaders of Science

Lachman, W. H.
Elected an honorary member of Adelphia.

Marsh, H. V.
Chaired session, "Growth and Development" at the annual meeting of the American Society Plant Physiologists, University of Massachusetts, August, 1968.

Maynard, D. N.
Elected to Phi Kappa Phi

Southwick, F. W.
Elected a Fellow of the American Society for Horticultural Science.

Stewart, G. L.
Appointed to Water Resources Division, Department of Interior to act as consultant in planning and conducting fundamental hydro-chemical research in isotopic hydrology investigations.

DEPARTMENT OF PLANT PATHOLOGY

Invitational Papers

Banfield, W. M.
"Hardwood declines" N. E. Forest Pest. Council, Boston, March 1969.

Holmes, F. W.
"Phytopathological translations", First Int. Cong. Plant Path., London, July 1968.

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"Leaf diseases of trees", Mass. Tree Wardens and Foresters Assn., Boston, January 1969

_____
"Dutch Elm disease", N. E. For. Pest. Council, Boston, March 1969

Rohde, R. A.
"The basis of resistance in plants to nematodes", First Int. Cong. Plant Path., London, July 1968

_____
"Naturally-occurring or disease-induced phenolic anthelmintic compounds and their mode of action", Am. Chem. Soc., Minneapolis, April, 1969

Honors

Gilgut, C. J.
Elected to Epsilon Sigma Phi

Holmes, F. W.
Invited to serve on evaluation panel for biology post-doctoral associates, Nat. Acad. Sci., Nat. Res. Council

McKenzie, M. A.
Elected to honorary membership, International Shade Tree Conf. for "outstanding contributions to landscape horticulture and arboriculture".

DEPARTMENT OF VETERINARY AND ANIMAL SCIENCES

Colby, B. E.
Citation and Certificate Award, Epsilon Sigma Phi.

Farrington, A. J.
Outstanding Professor Award, Stockbridge School of Agriculture, 1968-1969.

Foley, R. C.
Outstanding Professor Award, Stockbridge School of Agriculture, 1968-1969.

Gaunt, S. N.

Fulbright Award as Research Scholar in Denmark. Invitational Lecturer at the following European Universities: University of Thessalonki, Greece; University of Aberdeen, Scotland; University of Cambridge, England; University of Ljubljana, Yugoslavia; Royal Veterinary and Agricultural College, Denmark

Faculty Offices and Committee Memberships Held in Professional Societies

DEPARTMENT OF AGRICULTURAL AND FOOD ECONOMICS

Christensen, Robert L.
Resolutions Committee, New England Agricultural Economics Council

Engel, N. Eugene
Executive Committee New England Agricultural Economics Council

Fuller, Earl I.
Published Research Awards Subcommittee, American Agricultural Economics Association

Leed, Theodore W.
President, Food Distribution Research Society

Wyckoff, J. B.
Executive Committee, New England Agricultural Economics Council
Editor, Western Farm Economics Association
Northeast Public Affairs Committee

Brown, Alfred A.
Clerk, Phi Sigma Kappa Alpha Chapter House Corporation

Christensen, Robert L.
Secretary, Northeast Regional Poultry Marketing Research Committee

Crossmon, Bradford D.
Chairman, Subcommittee on Future Policies and Programs, Northeast Farm Management Extension Committee
Secretary-Treasurer, ELFAC, Northeastern Electronic Accounting Corporation

Foster, John H.
Northeast Regional Resource Economics Committee

Fuller, Earl I.
Northeast Farm Management Research Committee
Northeast Dairy Adjustment Group

Russell, Sargent
Acting Chairman, Programs for International Agricultural Cooperation, New England Center for Continuing Education

Marion, Donald R.
National Supermarket Advisory Committee, American Association of Junior Colleges

Storey, David A.
Secretary, Technical Committee, Northeast Regional Research Project, NEM-37

DEPARTMENT OF AGRICULTURAL ENGINEERING

Clayton, J. T.
- Bioengineering Committee, Chairman, Position Paper Subcommittee, ASAE
- Career Guidance Committee, Permanent Subcommittee for Women Engineers, ASAE
- Animal Shelter Ventilation Committee, ASAE
- Co-Chairman, Executive Committee, N. E. Farm Electrification Institute
- Chairman, Research Committee, N. E. Farm Electrification Institute
- Executive Committee, Connecticut Valley Chapter, ASAE

Fitzgerald, G. A.
- Organizing Committee for Establishment of a New Frozen Foods Section, Institute of Food Technologists

Fletcher, S. W.
- Chairman, Connecticut Valley Chapter, ASAE
- Executive Committee, North Atlantic Region, ASAE
- Chairman, FE-03, Technical Committee, ASAE
- Secretary, FE-71, Education Committee, ASAE
- Steering Committee, FE Division, ASAE
- Standards Committee, A-10, ASAE
- Program Committee, FE-9, ASAE
- Continuing Education Committee, ASAE
- President, UM Chapter, Phi Tau Sigma
- Associate Editor, Food Engineering Newsletter, FE Division, ASAE

Johnson, C. A.
- Agricultural Sanitation Committee, ASAE
- Milk Handling Equipment Committee, ASAE

Light, R. G.
- Councilor, Connecticut Valley Chapter, ASAE, to Engineering Societies of New England
- Board of Trustees, Engineering Societies of New England
- Steering Committee, Structures and Environment Division, ASAE
- Water Treatment Use Committee, ASAE

Pira, E. S.
- Chairman, Youth Committee, New England Farm Electrification Institute

Whitney, L. F.
- Secretary, Treasurer, North Atlantic Region, ASAE
- Steering Committee, Power & Machinery Division, ASAE
- Forest Engineering Committee, ASAE
- Subsurface Irrigation Committee, ASAE
- Fruit and Vegetable Harvesting Committee, ASAE

Zahradnik, J. W.
- Chairman, Food Engineering Division, ASAE
- Chairman, Food Engineering Division, Steering Committee, ASAE
- Chairman, C-A Storage Technical Subcommittee
- Public Relations Subcommittee, Food Engineering Division, ASAE
- Inter-Society Subcommittee, Food Engineering Division, ASAE

DEPARTMENT OF ENTOMOLOGY

Becker, W. B.
Vice Chairman, Northeastern Forest Pest Council
Planning Committee, Massachusetts Tree Warden's, Arborist's, and Utilities Conference

Peters, T. M.
Co-Chairman, National Pest Control Conference

Shaw, F. R.
Advisory Committee, Northeastern Mosquito Control Assoc.
Pest Control Committee, Phi Chi Omega
Consultant, Connecticut Research Commission
Executive Committee, NE-36 and Chairman, Sub-Committee on Pesticide Residues
Co-Chairman, Eastern Conference, National Pest Control Association

Smith, M. E.
Secretary, Univ. of Mass. Chapter of Sigma Xi

DEPARTMENT OF ENVIRONMENTAL SCIENCES

Feder, W. A.
Secretary, Technical Committee NE-56 Regional Air Pollution Project
Agricultural Effects Committee, National Association Air Pollution Control

Galinat, W. C.
Secretary, New England Botanical Club
Editorial Board, Economic Botany, Society for Economic Botany

Gunner, H. B.
President, Univ. of Mass. Chapter of Sigma Xi

Litsky, W.
Board of Directors, Leo F. Rettger Branch of American Society for Microbiology
Committee on Surface Contamination; Sub-Committee for the standard Methods for the Analysis of Water and Wastewater, American Public Health Association
Editor, Laboratory Section Newsletter, APHA
Chairman, Program Committee, New England Council of Water Center Directors

McEnroe, W. D.
Secretary, Society New England Population Geneticists

Mueller, W. S.
Editorial Board, Journal of Milk and Food Technology

Faddoul, George P.
Poultry Health Committee, Massachusetts Poultry Association
State Advisory Committee, Control of *Mycoplasma gallisepticum*
Educational Committee, Massachusetts Veterinary Medical Association
Advisory Committee, Massachusetts Div. of Livestock Disease Control

DEPARTMENT OF FEED, SEED, FERTILIZER CONTROL

Rice, W. N.
Chairman, Meeting Place Committee, Association of Official Seed Analysts
Acting Chairman, Referee Committee N. E. Region of AOSA
Research Subcommittee on Bluegrass, AOSA
Chairman Noxious Weed Seed Committee of AOSA N.E. Region

Smith, C. Tyson
Methods Committee, American Association of Feed Microscopists

Kuzmeski, J. W.
Chairman, Collaborative Check Sample and Tolerances Committee, Association of American Feed Control Officials
Investigator, Non-Protein Nitrogen Products, Ibid
Investigator, Nitrogen Products, Assoication of American Fertilizer Control Officials
Committee on Investigational Allowances, Ibid

DEPARTMENT OF 4-H AND YOUTH PROGRAMS

Metcalfe, W. W.
President, Massachusetts Adult Education Association
Secretary, Univ. of Mass. Phi Delta Kappa Chapter
Member, Delegate's Assembly, Adult Education Association of the U. S.

Howell, Mildred L.
Legislative Committee, Massachusetts Home Economics Association

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

Buck, E. M.
Director, New England Livestock Conservation, Inc.

Clydesdale, F. M.
Undergraduate Awards Committee, Northeast Section, Institute of Food Technologists
Secretary-Tressurer, Univ. of Mass. Chapter of Phi Tau Sigma

Esselen, W. B.
Section Councillor, Northeast Section Institute of Food Technologists
Undergraduate Awards Jury, Institute of Food Technologists
Program Committee, Institute of Food Technologists Northeast Multisectional Meeting
General Committee on Food, and Committee on Microbiology of Food, National Research Council Advisory Board on Military Personnel Supplies, National Academy of Science

Evans, D. A.
Committee on Bills of Lading and Seals, National Conference on Interstate Milk Shipments, Denver, 5/69.

Francis, F. J.
- Council, Chairman of Undergraduate Scholarship Awards Committee, Secretary of Nomination and Election Committee, and Constitution and Bylaws Committee, Institute of Food Technologists
- National Councilor, Northeast Section Institute of Food Technologists
- Editorial Committee Amer. Soc. Hort. Sci
- Chairman, Inter Society Color Council Committee to Evaluate Color Difference Measuring Equipment

Hankinson, D. J.
- Vice-president, Massachusetts Dairy Technology Society
- Chairman, Selection Committee Outstanding Teaching Award in Dairy Manufacturing, American Dairy Science Association

Hayes, K. M.
- Chairman, Northeast Section Institute of Food Technologists
- Director, Research and Development Association (U.S. Army Natick Laboratories) and member of Nominating Committee and Academic Activities Committee
- National Councilor, Phi Tau Sigma
- Subcommittee on Scholarships and Awards, Institute of Food Technologists

Hultin, H. O.
- Task Force to Develop Outlines for Course in Food Chemistry, Institute of Food Technologists
- Program Committee IFT
- Sectional Councilor, Northeast Section IFT

Hunting, W. M.
- Secretary, Massachusetts Chapter Phi Kappa Phi
- Resident Clerk, Phi Tau Sigma National Honorary Society
- Northeast Section Representative of Subcommittee on International Technical Assistance, Institute of Food Technologists

Levin, R. E.
- Executive Committee, Atlantic Fisheries Technological Conference

Nawar, W. W.
- Committee on Communications, American Oil Chemists' Society
- Committee on Reproduction of Abstracts, Division of Agr. and Food Chemistry, American Chemical Society

Potter, F. E.
- Board of Directors, New England Group of the National Ice Cream Retailers Association

Sawyer, F. M.
- Committee on Sensory Testing, Institute of Food Technologists and Committee E-18 on Sensory Evaluation of Materials and Products, American Society for Testing and Materials

Stumbo, C. R.
- Food Irradiation Aviaory Committee, National Research Council Advisory Board on Military Personnel Supplies, National Academy of Sciences

DEPARTMENT OF FORESTRY AND WILDLIFE MANAGEMENT

Abbott, H. G.
Chairman, New England Section, Society of American Foresters

Bond, R. S.
Policy Committee, New England Section, Society of American Foresters
Corresponding Secretary, Northeastern Forestry Economists

Brander, R. B.
Chairman, Urban Affairs and Regional Planning Committee, Wildlife Society

Carlozzi, C. A.
Executive Secretary, Caribbean Conservation Assoc.

Gatslick, H. B.
Vice Chairman, New England Section, Forest Products Research Society
Treasurer, New England Kiln Drying Association
Wood Committee, Building Research Council, National Academy of Science
Educational Curriculum Committee, New England Building Code Association
Wood Coatings and Treatment Committee, Forest Products Research Society

Greeley, F.
Executive Committee, Northeast Section of the Wildlife Society

Hoadley, R. B.
Treasurer, U. Mass. Chapter Sigma Xi
Treasurer, New England Section, Forest Products Research Society
Corresponding Secretary, Society of Wood Science and Technology

MacConnell, W. P.
Chairman, Program Committee, Annual Summer Meeting, New England Section, Society of American Foresters

Mader, D. L.
Chairman, Program Committee, Annual Winter Meeting, New England Section, Society of American Foresters.

Mawson, J. C.
Technical Editor, News Quarterly, New England Section, Society of American Foresters.

McCann, J. A.
Regional Chairman, Membership Committee, and Board of Professional Certification, American Fisheries Society

Noyes, J. H.
Chairman, 50th Anniversary Meeting, New England Section, Society of American Foresters
International Relations Committee, Society of American Foresters
Director, Mass. Christmas Tree Assoc.
Mass. Tree Farm Committee, Mass. Forest Industries Committee, Mass. Interagency Recreation Advisory Council

Rice, W. W.
Secretary, Drying Division, and Editor, Dry Division News Digest, Forest Products Research Society
Executive Secretary, New England Kiln Drying Assoc.

DEPARTMENT OF HOTEL AND RESTAURANT ADMINISTRATION

Eshbach, C. E.
Research Committee, Council on Hotel, Restaurant and Institutional Education
Secretary, Planning Committee of Food Management Seminar, Massachusetts Food Service Educational Council

Robertson, C. J.
Research and Development Associates, U. S. Army, Natick Laboratory
Chairman, Sub-Committee on Dairy and Egg Products, Research and Development Associates of the U. S. Army
Chairman, Council Committee on Regional Sections and Affiliate Organizations, Institute of Food Technologists
Chairman, Nominating Committee of the Food Service Division, IFT

DEPARTMENT OF LANDSCAPE ARCHITECTURE

Kent, Robert
Committee on Schools and Student Affiliation, American Society of Landscape Architects

King, Gordon
Education Committee, National Recreation and Park Association
Education Committee, New England Park Association
Secretary/Treasurer, Western Chapter Mass. Tree Wardens & Foresters Association
Education Committee, Mass. Arborists Association
Tree Selection and Evaluation Committee, International Shade Tree Conference

Mosher, Harold
University Relations Committee, Mass. Nurserymen's Association

Otto, Raymond H.
Marshall, Phi Kappa Phi

Zube, Ervin H.
Committee on Landscape Conservation, American Society of Landscape Architects
Conference Committee, Inter-professional Commission on Environmental Disign
Director, Hubbard Educational Trust, Inc.

DEPARTMENT OF PLANT AND SOIL SCIENCES

Bramlage, W. J.
Program Chairman, Northeast Regional Meetings American Society for Horticultural Science
Post-harvest Horticulture Committee, ASHS

Colby, W. G.
President-Elect, Northeast Section, American Society of Agronomy

Drake, M.
Consulting Editor, Soil Science
Consulting Editor, Agronomy Journal

Maynard, D. N.
Governing Board, American Institute of Biological Sciences
Board of Directors, American Society for Horticultural Science
Granting Agency Committee, ASHS

Southwick, F. W.
Pomology Section Committee, American Society for Horticultural Science

Stewart, G. L.
Sub-Committee, Nuclear Techniques in the Saturated and Unsaturated Zone, National Academy of Sciences and the National Committee for the International Hydrologic Decade

Vengris, J.
Chairman, Herbaceous Weeds, Research Coordination Committee, Northeastern Weed Control Conference
"Carrier Leaflet" Committee, Weed Science Society of America

Zak, J.
Specialty and Turf Fertilizers Committee, American Society of Agronomy
Scientific Advisory Committee, Cape Cod National Seashore

DEPARTMENT OF PLANT PATHOLOGY

Holmes, F. W.
Secretary, and Chairman, Technical Committee of Cooperative Regional Research Project NE-25
Chairman, American Phytopathological Society's Committee on Regulatory Work and Foreign Plant Diseases
Convenor, Committee on Phytopathological Translations, American Phytopathological Society
Vice-President, Western Massachusetts Tree Wardens & Moth Superintendents Association
American Phytopathological Society Goodwill Mission to Phytopathological Laboratories in Europe: Amsterdam, Wageningen, Berlin, Prague, Moscow, Budapest, Paris and London, June - July, 1968

McKenzie, M. A.
Member, Northeastern Forest Pesticide Council
Advisory Council, TREES "The Journal of American Arboriculture"
Consultant, Executive Committee, Massachusetts Tree Wardens and Foresters Association
Program Committee, Tree Wardens, Arborists and Utilities Conference
Vice-President, Hamphsire County Forest and Park Assn.

Rohde, R. A.
Secretary-Treasurer, Northeast Division, Am. Phytopath. Soc.
Nematology Committee, Amer. Phytopath Society
Education Committee, Society of Nematologists
Secretary, Technical Committee of Coop. Regional Research Project NE-64

DEPARTMENT OF VETERINARY AND ANIMAL SCIENCES

Colby, B. E.
Secretary, Extension Livestock Section, American Society of Animal Sciences
Program Chairman, Extension Livestock Section, Northeast Section, American Society of Animal Production, Burlington

Damon, R. A.
Representative, Biological Science Information and Retrieval American Society of Animal Science

Fox, T. W.
Chairman, Special Awards Committee, Poultry Science Association

Gaunt, S. N.
Chairman, Membership Committee, Dairy Science Association

Grover, R. M.
Treasurer, Massachusetts Federation of Extension Workers

Howe, G. R.
Secretary, Sigma Xi, University of Vermont

Mellen, W. J.
President, Univ. of Mass. Chapter, Phi Kappa Phi
Program Committee, 1969 Annual Meeting, Poultry Science Association
U. S. Committee for the Tom Newman Memorial Award, Poultry Science Association

Olesiuk, O. M.
Mycoplasmosis Committee, American Association of Avian Pathologists

Smith, R. E.
Chairman, Section on Pathogenesis, National Leptospirosis Conference
Committee on Leptospirosis, U. S. Animal Health Association

Smyser, C. F.
Antigen Committee, Northeastern Conference of Avian Diseases
Pullorum-Typhoid Testing Committee, Northeastern Conference of Avian Diseases.

Snoeyenbos, G. H.
Secretary-Treasurer, Finance Committee, Board of Directors, Salmonella Committee, Business Manager - Avian Diseases, American Association of Avian Pathologists
Permanent Secretary, Executive Committee, Chairman - Antigen Committee, Northeastern Conference on Avian Diseases

Stern, D. N.
President, American Association of Extension Veterinarians
Chairman, Program Committee AAEV
Committee on Continuing Education, Committee on Communicable Diseases, Committee on Program Planning, Massachusetts Veterinary Medical Association
Secretary-Treasurer, Western Massachusetts Veterinary Medical Association

Summary of Resident Instruction

1968 - 69

Department	NO. OF COURSES TAUGHT Fall	NO. OF COURSES TAUGHT Spring	NO. OF CREDITS Fall	NO. OF CREDITS Spring	NO. OF STUDENTS Fall	NO. OF STUDENTS Spring	STUDENT CONTACT HOURS Fall	STUDENT CONTACT HOURS Spring	FACULTY CONTACT HOURS Fall	FACULTY CONTACT HOURS Spring
Agricultural & Food Economics	30	29	92	79	1,089	884	3,584	2,676	105	83
Agricultural Engineering	11	12	32	34	166	304	678	1,136	58	75
Entomology	11	11	33	29	405	322	956	890	49	53
Environmental Sciences	3	0	8	0	42	0	158	0	11	0
Feed, Fertilizer, Dairy Law, etc.	1	0	3	0	18	0	90	0	5	0
*Food Science & Technology	34*	20	88*	53	1,343*	481	3,777*	1,382	158*	78
Forestry & Wildlife Management	38	31.6	106	91	905	503	2,880	2,269	164	163
**Hotel & Restaurant Administration	-	13**	-	35**	-	484**	-	1,402**	-	45**
Landscape Architecture	31	30	95	78	1,110	854	3,778	3,142	158	136
Plant & Soil Sciences	34	42	90.5	109.5	1,211	1,031	3,867.5	3,217	172	214.5
Plant Pathology	6	3	17	6	43	139	230	282	23	7
Veterinary & Animal Sciences	25	16	73	47	618	537	2,605	1,462	91	65
	224	207.6	637.5	561.5	6,950	5,539	22,603.5	17,858	994	919.5

*Combined Food Science & Technology and Hotel & Restaurant Administration.
**New Department of Hotel & Restaurant Administration became effective 2/1/69.
AAS:MRE 4/1/69

Breakdown of Student Enrollment by Majors -- Fall 1968

Department and Majors	Four Year	Two Year	Graduate
Agricultural and Food Economics			
General Agricultural Economics			5
Agricultural Business Management	18	21	6
Food Distribution		31	
Food Marketing Economics	13		10
Lumber & Building Material Management		11	
Natural Resource Economics	7		8
International Agricultural Studies	5		6
Agricultural Engineering	5		15
Entomology	10		25
Food Science and Technology			
Dairy Technology		14	
Food Science and Technology	22		49
Forestry and Wildlife Management			
Fisheries Biology	57		13
Forestry	101		13
Wildlife Biology	121		17
Wood Science and Technology	16		2
Wood Utilization		24	
Hotel and Restaurant Administration	160	100	
Landscape Architecture			
Aboriculture and Park Management		112	
Environmental Design	101		
Landscape Architecture			40
Landscape Operations		48	
Park Administration	41		
Regional Planning			2
Plant and Soil Sciences			
Floriculture		39	
Fruit and Vegetable Crops		16	
Plant Industry	19		26
Plant Science	8		
Soil Science	4		15
Turf Management		69	
Plant Pathology			13
Veterinary and Animal Sciences			
Animal Sciences	97	101	31
Laboratory Animal Management		15	
TOTAL	805	601	296

Graduate Enrollments by Departments -- 1961 - 1968

Major	1961	1962	1963	1964	1965	1966	1967	1968
A & F Econ	30	26	30	25	27	29	18	35
Agric Eng	13	11	12	16	18	13	10	15
Agronomy	3	4	-	-	-	-	-	-
Dairy Ind	3	3	-	-	-	-	-	-
Entomology*	12	17	14	20	24	24	35	25
Flori	2	4	-	-	-	-	-	-
Food Sci	18	19	21	35	46	42	51	49
For & Wildlife	11	13	12	44	46	46	45	45
Land Arch	3	5	4	15	19	30	40	42
Oleri	1	2	-	-	-	-	-	-
Plant & Soil	-	-	8	13	19	19	29	41
Plant Path	-	-	-	-	-	-	-	15
Pomology	0	2	-	-	-	-	-	-
Poultry Sci	5	5	-	-	-	-	-	-
Vet & An Sci	3	5	16	18	29	29	28	31
Totals	104	116	117	186	228	232	256	296

* Entomology and Plant Pathology combined from 1958 through 1967.

PERCENT OF INCREASE 1961 TO 1968: 184%

Undergraduate Enrollments by Major -- 1961 - 1968

Major	1961	1962	1963	1964	1965	1966	1967	1968
A & F Econ	8	13	13	11	21	26	35	43
Ag Eng	4	5	4	3	3	7	8	5
Agronomy	8	8	-	-	-	-	-	-
Dairy Ind	5	12	-	-	-	-	-	-
Entomology*	12	14	12	13	13	10	12	10
Flori	7	8	-	-	-	-	-	-
Food Sci	38	47	28	35	22	21	25	22
Forestry	77	82	73	73	90	135	129	117
Land Arch	66	63	63	65	88	87	80	101
Oleri	6	1	-	-	-	-	-	-
Park Adm	-	-	-	-	5	12	32	41
Plant & Soil Sci	-	-	28	29	26	34	29	31
Pomology	5	1	-	-	-	-	-	-
Poultry Sci	7	4	-	-	-	-	-	-
Rest & Hotel	23	23	26	35	58	82	129	160
Vet & An Sci	28	24	43	53	52	66	75	97
Wild & Fish Biol	46	56	55	78	98	130	151	178
Totals	341	361	345	395	487	620	705	805

*Entomology and Plant Pathology combined from 1958 through 1967.

PERCENT OF INCREASE 1961 TO 1968: 136%

Stockbridge School Enrollments by Major -- 1961 - 1968

Major	1961	1962	1963	1964	1965	1966	1967	1968
An Science	88	87	70	73	69	67	111	101
Arboriculture	23	11	-	-	-	-	-	-
Arbor & Park Management	-	51	98	100	100	100	99	112
Agric Business Management	-	-	-	-	-	5	16	21
Dairy Technology	19	23	26	26	21	16	21	14
Floriculture	31	39	33	33	34	33	43	39
Food Distribution	26	24	15	17	23	26	29	31
Food Distribution 1-year	-	-	6	6	6	4	-	-
Food Management	43	48	-	-	-	-	-	-
Hotel & Rest Admin	-	-	61	63	70	85	90	100
Forestry	30	16	-	-	-	-	-	-
Fruit Growing	5	2	-	-	-	-	-	-
Vegetable Crops	7	1	-	-	-	-	-	-
Fruit & Vegetable Crops	-	-	11	11	15	18	15	16
Landscape Operations	49	46	43	44	48	48	51	48
Lab Animal Management	-	-	-	-	-	6	*	15
Lumber & Bldg Mat Bus Mgt	-	-	-	-	-	-	7	11
Poultry Science	9	14	8	8	2	-	-	-
Turf Management	47	65	82	85	84	85	70	69
Wood Products	15	19	-	-	-	-	-	-
Wood Utilization	-	-	20	20	28	39	34	24
Totals	392	446	473	486	500	532	586	601

* Included in An Science

PERCENT OF INCREASE 1961 TO 1968: 53%

ANNUAL REPORT

of the

COLLEGE OF ARTS AND SCIENCES

1968-1969

University of Massachusetts at Amherst

UNIVERSITY OF MASSACHUSETTS

College of Arts and Sciences

A N N U A L R E P O R T

Period Covered: July 1, 1968 through June 30, 1969

Submitted to: President John W. Lederle

Submitted by: Seymour Shapiro

Seymour Shapiro
Dean, College of Arts and Sciences
November 26, 1969

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Humanities	B- 4
Social Sciences	B-13
Biological Sciences	B-18
Physical Sciences	B-19
Mathematics and Statistics	B-22

I. BUDGET

A. BUDGET ALLOCATIONS

Account	FY 1967	FY 1968	FY 1969
03[1]	$ 162,262	$ 168,000	$ 211,113
10	34,410	37,000	42,000
11	4,100	--	--
12	39,200	40,000	41,787
13	200,600	238,000	265,000
14[2]	13,950	14,300	29,300
15	248,200	187,000	210,000
16	15,000	20,000	25,000
TOTALS	$ 716,722	$ 704,300	$ 824,200
Salaries (01, 02)	$6,375,512	$7,895,140	$9,001,698
(03)	81,138	30,159	23,434
GRAND TOTALS[3]	$7,173,372	$8,629,599	$9,849,332

FOOTNOTES

1 Does not include faculty salaries paid from Account 03

2 Does not include allocations for telephone charges

3 No allocations were made to the College or to individual departments for the purchase of books. Instead the Library honored virtually all requests.

B. FUNDS ENCUMBERED, FY '69

The total funds reported by the Treasurer's Office to have been encumbered in each of the several accounts during each of the past four years is presented in the table below. Also indicated is the "dollars per student credit hours (SCH)" and, for Accounts 10, 14, and 14_1 the "dollars per full time equivalent faculty position". Positions in the Dean's Office have been included in the total of faculty positions. Finally, the total encumbered for supplies, equipment, etc. (Accounts 10-16) is presented as a percent of salaries and other payments to individuals (Accounts 01, 02, 03).

	FY '66	FY '67	FY '68	FY '69
Student Credit Hours (SCH)	119,620	138,692	152,731	164,288
Faculty Positions	452	533	606	668
	FUNDS ENCUMBERED	FUNDS ENCUMBERED	FUNDS ENCUMBERED	FUNDS ENCUMBERED
Salaries: 01 + 02 + 03 Faculty	4,978,086	6,456,621	7,925,299	9,025,132
Other 03	83,500 0.70/SCH	169,800 1.22/SCH	161,169 1.02/SCH	226,879 1.38/SCH
Total 01, 02, 03	5,061,586 43.34/SCH	6,626,421 47.78/SCH	8,086,468 52.95/SCH	9,252,011 56.32/SCH
10	23,060 0.19/SCH $50.02/fac	33,500 0.24/SCH $62.42/fac	38,517 0.25/SCH $63.04/fac	42,126 0.26/SCH $63.06/fac
12	23.050 0.10/SCH	38,210 0.28/SCH	43,031 0.28/SCH	44,856 0.27/SCH
13	187,670 1.57/SCH	203,990 1.47/SCH	241,495 1.58/SCH	273,342 1.66/SCH
14	15,600 0.13/SCH $33.84/fac	22,100 0.16/SCH $41.08/fac	27,370 0.18/SCH $44.79/fac	22,987 0.14/SCH $34.41/fac
14_1	43,650 0.36/SCH $94.69/fac	59,940 0.43/SCH $111.41/fac	81,659 0.53/SCH $134.75/fac	99,171 0.60/SCH $148.46/fac
15	205,180 1.72/SCH	243,020 1.75/SCH	188,236 1.23/SCH	210,294 1.28/SCH
16	13,080 0.11/SCH	18,450 0.13/SCH	21,975 0.14/SCH	24,672 0.15/SCH
Total, Accounts 10-16	511,290 4.27/SCH	619,300 4.47/SCH	642,283 4.21/SCH	717,448 4.36/SCH
Supplies, etc./Salaries (10-16) (01,02,03)	10.11%	9,35%	7.94%	7.75%

Inspection of the table on the previous page reveals several facts, including the following:

1. Student credit hours of instruction provided by the College show very nearly a "straight line" progression with a 37% increase between FY '66 and '69.

2. Expenditures in Accounts 01, 02, and 03 include the salaries of the professional and non-professional staff, honoraria paid to guest speakers, compensation for student and other hourly labor, etc. Comparisons between successive years reveal an increase of only about $1.1 million this year as compared to last, whereas the increment was close to $1.5 million in prior years. If the comparison is made in terms of student credit hours, the amount paid in FY '69 ($56.32/SCH) is only $3.37 greater than that in FY '68 ($52.95/SCH); this increase is one of only 6.36% which is somewhat less than the usual estimates of the inflation which has occurred during the past year. This indicates that there has been little money provided in these accounts for improvement in quality.

3. Expenditures in Accounts 10-16 provide the "things" which are required for teaching and research. While the absolute soms expended in these accounts have increased over the years, the increment has been insufficient to even maintain a steady state. Thus, the expenditures in these accounts in FY '69 are only $0.09 (or 2%) per student credit hour greater than in FY '66. The increased cost of telephones accounts for more than the entire increase.

The ratio of expenditures in Accounts 10-16 to those in Accounts 01-03 for each of the past four years illustrate in a striking manner the inadequacy of the funds provided for travel, supplies, equipment, and rentals. In order to expand the student body, we have expended increased funds for personnel while depleting our meager stock of supplies and postponing the purchase of replacement and additional equipment.

II. ORGANIZATIONAL CHARTS

A. Departments and Administrative Units by (Unofficial) Divisions

DEAN'S OFFICE

FINE AND PERFORMING ARTS

Art
Music
Speech

BIOLOGICAL SCIENCES

Botany
Microbiology
Zoology

MATHEMATICS AND STATISTICS

Mathematics & Statistics

PHYSICAL SCIENCES

Biochemistry
Chemistry
Geology-Geograp
Physics-Astron-omy[4]

HUMANITIES

Comparative Literature
English
Germanic Languages and Literatures
History
Philosophy
Romance Languages
Slavic Languages and Literatures

SOCIAL SCIENCES

Asian Studies[1]
Economics
Linguistics[1]
Government[2]
Psychology
Sociology
Anthropology[3]

****

FOOTNOTES

[1] Linguistics and Asian Studies operate as separate units without departmental status.

[2] The Bureau of Government Research is a part of the Government Department.

[3] Anthropology will be an independent department effective September 1, 1969.

[4] The Astronomy Program has a chairman who is also chairman of the Four-College Department.

B. DEGREES, MAJORS AND OTHER PROGRAMS OF STUDY

Majors for Bachelor of Arts Degree

Anthropology
Art
Astronomy[1]
Biochemistry
Botany
Chemistry
Classics
Economics
English
French
Geography[2]
Geology
German
Government
History[2]
Italian
Journalistic Studies
Mathematics
Microbiology
Music
Philosophy
Physics
Pre-Dental Studies
Pre-Medical Studies
Pre-Veterinary Studies
Psychology
Russian
Sociology
Spanish
Speech
Zoology

Majors for Bachelor of Science Degree

Astronomy[1]
Biochemistry
Botany
Chemistry
Geology
Mathematics
Microbiology
Physics
Pre-Dental Studies
Pre-Medical Studies
Pre-Veterinary Studies
Psychology
Zoology

Majors for Bachelor of Fine Arts

Art Education
Studio Art

Majors for Bachelor of Music

Music

Programs without Major

Asian Studies
Chinese
Comparative Literature
Danish
Japanese
Linguistics
Polish
Portuguese
Statistics
Swedish

Majors for Master of Art of Master of Science

Anthropology[2]
Art History
Biochemistry
Botany
Chemistry
Comparative Literature
Economics
English
French
Geology
German
Government
History
Mathematics
Microbiology
Philosophy
Physics
Psychology
Russian
Sociology
Spanish
Speech
Statistics
Zoology

B. DEGREES, MAJORS AND OTHER PROGRAMS OF STUDY (continued)

Majors for Master of Fine Arts

Art
English
Speech

Master of Music

Music

Majors for Doctor of Philosophy

Anthropology
Astronomy
Biochemistry
Botany
Chemistry
Comparative Literature
Economics
English
French
Geology
German
Government
History
Mathematics
Microbiology
Philosophy
Physics
Psychology
Sociology
Spanish
Zoology

FOOTNOTES

[1] Four-College undergraduate degree program

[2] Effective September of 1969

III. PERSONNEL

A. PROFESSIONAL

1. The Dean. Dr. I. Moyer Hunsberger, Dean of the College of Arts and Sciences since 1961, resigned from that post on March 1st, exactly eight years from the day of his appointment. While under his leadership, the College of Arts and Sciences grew from a unit with 2500 undergraduates, 350 graduate students, and a faculty of 255 to one with 6860 undergraduates, 1500 graduate students and a faculty of 668.

In accepting Dean Hunsberger's resignation, President John W. Lederle said, "During your years as Dean, the University has grown steadily in excellence, for which this state can be proud. We will miss your endless dedication and service, the long hours and seven-day weeks that you have contributed to this excellence."

Dean Hunsberger announced his resignation at a meeting of the faculty. Provost Tippo addressed the faculty briefly after the announcement and indicated his desire to record that Dr. Hunsberger had done an outstanding job as Dean during the last eight years -- or perhaps one should say sixteen years, for he has contributed two years of service for each calendar year. He demanded the highest standards in all aspects of the work of the College, and he set the same high standards for himself. He showed absolute integrity in all his dealings, and he fought strenuously for his college -- for space, for new buildings, for budget, and for positions. Dr. Hunsberger was given a tremendous standing ovation by the faculty as he left the auditorium. We wish him well in his new position with the Ford Foundation as Program Advisor in Education in Pakistan.

Dr. Seymour Shapiro, Professor and Head of the Department of Botany was named Acting Dean of the College by the Board of Trustees on March 14, 1969. He assumed his new duties immediately.

2. Administration, Faculty and Other Professional Personnel. Statistical data concerning the professional personnel of the College is presented in six tables, as follows:

TABLE 1: PROFESSIONAL POSITIONS (FTE) FILLED BY RANK (Appendix A)

TABLE 2: FACULTY POSITIONS (FTE) FILLED BY DIVISION, DEPARTMENT, AND RANK: FALL SEMESTER (Appendix A)

TABLE 3: PROFESSIONAL PERSONNEL ACTIONS (Appendix A)

TABLE 4: SALARY RANGES OF ARTS AND SCIENCES FACULTY BY RANK AND YEAR (1962-1969) [Appendix A]

TABLE 5: FACULTY SALARIES (February, 1969) - DISTRIBUTION BY RANKS (Appendix A)

TABLE 6: GRAPHIC PRESENTATION OF SALARY RANGES OF ARTS AND SCIENCES FACULTY BY RANK AND YEAR (1962-1969) [Appendix A]

(Administration, Faculty and Other Professional Personnel, continued)

In each case reference is to full-time equivalent positions which were filled in September of the year indicated. Inspection of these tables reveals the growth and some of the significant changes during the past three years.

The administrative structure of the College was changed somewhat from that of past years. Professor S. Jay Savereid, one of the initial group of half-time assistant deans appointed to oversee the academic progress of the students, completed his term with the graduation of the Class of 1968. Many students are appreciative of this counsel so generously given over a four-year span, and the College benefited from his contribution as an ex-officio member of several committees and as a participant in discussions of College matters by the deans.

Professor Robert B. Livingston accepted full-time appointment as Associate Dean and a director of CASIAC (see Section IV, C). He has particular responsibility for the academic affairs of the freshmen and sophomores in the College.

Vice-Dean Maki, Associate Dean Wagner, and Assistant Deans Rollason and MacFarland, the latter on a half-time basis, continued their administrative duties. In summary, then, the number of positions in the Dean's office was 5 1/2, as compared to 5 the previous year.

Three named professorial chairs have been approved in the College. The first of these, the George David Birkhoff Professorship in Mathematics, was approved for the present year and has been occupied by Dr. Marshall H. Stone, a distinguished scholar in analysis, quantum theory, logic, algebra, and topology, and a member of the National Academy of Sciences. The Clarence H. and Helen Haring Professorship in History and the Robert Morrison MacIver Professorship in Sociology will be occupied first in 1969-70 by Dr. Lewis Hanke and Dr. Hans Speier, respectively. Dr. Hanke's scholarship in Latin-American history has been recognized by the award of honorary doctorates by the University of Bolivia, Seville (Spain) and Bahia (Brazil) and the Bartolomé Mitre Medal by the Hispanic Society of America. Professor Speier, a Fellow of the American Academy of Arts and Sciences, is best known for his works in war and international conflict. His work in political sociology is characterized by colleagues as path-breaking.

Full-time faculty positions which were filled in September, 1968, numbered 668, an increase of 62 (10.2%) over the previous year (Table 1). Details concerning the distribution of positions are presented in Table 2. It reveals that the additional positions are primarily in the Fine Arts (14.5, an increase of 20%); Humanities (17.5, an increase of 8%); Social Sciences (15.5, an increase of 15%); Mathematics and Statistics (9.0, an increase of 15%). The increase in faculty positions in the Biological and Physical Sciences was only 3.0 (6%) and 2.5 (3%), respectively, largely because of the severe space limitations in these areas.

In order to develop a superior graduate program it has been important to increase the number of faculty who are experienced in the guidance of graduate students. Indirect evidence that we are continuing to move in this direction is indicated by the fact that, of the 62 additional positions in 1968-69, 36.7 (59.2%) were filled at the upper two professorial ranks. The total number of positions filled at these ranks (284.7, 42.6%) however, remains below that considered most desirable.

Only one staff associate and no staff assistants were added to the list of non-teaching professional positions in the College. The demands of an expanding College dictate the allocation of additional such positions.

The appointment of 472 graduate teaching assistants at an average stipend of $2700 represents an increase of 64 positions over the previous year. This increase was essential in order that the College fulfill its teaching obligations satisfactorily.

Post-doctoral research associates, though supported from grant funds, contribute significantly to the academic work of the College. The 40 associates in seven departments both assist and stimulate the research of undergraduates who undertake "Honors Theses" and candidates for graduate degrees.

The number of promotions, tenure appointments, and other professional personnel actions are summarized in Table 3, and require no particular comment. With more faculty positions each year, an increase in the number of personnel actions is expected.

3. Appointments to Rank of Professor Emeritus. Two members of the faculty retired at the end of the academic year and were appointed Professor Emeritus.

Professor Harold W. Cary joined the Department of History in 1933 and served as Head of Department for several years, beginning in 1959. Primarily a scholar and teacher in the field of American diplomatic history, Professor Cary is also the historian of the University. His study entitled "The University of Massachusetts: History of One Hundred Years," published in 1963, traced the growth of one of America's first land-grant institutions from the time of the Civil War, through its fledgling years as an agricultural college, and into the modern period of dynamic growth and recognition as a major university.

An endowment fund has been created by his colleagues to support the Harold W. Cary Prize for History to be awarded each spring to the senior history major with the highest cumulative grade average in history. They thought this to be the most significant way in which they "could express their affection and respect for Dr. Cary and his contributions both to the Department of History and to the University."

Dr. Claude C. Neet was first appointed to the faculty in 1935. Twelve years later (1947) he was named Head of the newly-formed Department of Psychology, a position which he held until 1967. While under his capable leadership the Department grew to one with 24 faculty and more than 500 undergraduate majors and 50 graduate students, most of whom were doctoral candidates.

Professor Neet's research interests were in the areas of educational and experimental psychology, and he was named a Fellow of the American Psychological Association. A teacher of many different courses over the years, he is particulary remembered with great respect by many students for his teaching of an introductory course elected by many undergraduates with very diverse interests and advanced courses in abnormal psychology. Professor Neet's contribution to the orderly growth of the entire College and University through his membership on many important committees is also widely recognized and gratefully acknowledged.

4. Faculty Salaries. The range of salaires paid to the faculty at each rank from 1962 to date is presented in tabular and graphic from in Tables 4, 5, and 6. The AAUP ratings of the median and minimum salaries at each of the several ranks is as follows:

(Faculty Salaries, continued)

RANK	AAUP Rating, 1968-69 MEDIAN	MINIMUM
Professor	B	A
Associate Professor	A	A
Assistant Professor	A	B
Instructor	A	B

B. NON-PROFESSIONAL PERSONNEL

Last year the situation in respect to secretarial assistance in the College was described as "deplorable and, in some departments, approaches the desperate." Because NO additional secretarial positions were allocated to the College during the fiscal year 1969, but the number of faculty was increased by 62 positions and the teaching load was increased by 12,000 student credit hours, one can state emphatically that the situation has reached an acute state.

Information concerning the number of non-professional positions assigned to the College is presented in Table 7, 8, and 9. Inspection of these tables reveals the following facts which emphasize the desperate need of the College for additional secretarial positions, particularly positions at the higher grades.

1. The ratio of faculty positions to secretarial positions in the College is 8:1. This is so high that it forces wasteful use of faculty time, frustration and dissatisfaction on the part of both the faculty and the secretaries, and occasionally leads to attitudes of unwillingness to cooperate.

2. In seven departments the ratio of faculty positions to secretarial positions is greater than 9:1 (Mathematics & Statistics, 13.7:1); (Art, 11.3:1); (Music, 10.0:1); (Romance Languages, 10.0:1); (History, 9.9:1); (Philosophy, 9.3:1);(Sociology and Anthropology, 9.3:1).

3. There are only nine positions of Principal Clerk (grade 9). As a consequence, there are four departments (Speech, History, Government, and Psychology) with more than 30 faculty positions in which the highest ranking secretarial position is that of Senior Clerk Stenographer (Grade 7). There is no position of Principal Clerk in the Dean's Office.

4. Slightly more than half of the secretarial positions (46 of 90) are at the Junior Clerk grade. Given the situation in which averages indicate that each secretary attempts to handle the work of eight faculty members, the need for experiences secretaries is obvious. Such secretaries seek, and should have, positions of higher rank.

The situation in respect to technical personnel in the College is little better than that relative to secretarial positions. Since no new positions were assigned to the College during the year, the ratio of faculty to technical positions increased from 13.5:1 in fiscal 1968 to 15.2:1 in fiscal 1969.

Our goal for the near future remains at one secretary for each five faculty positions. Teachers could devote more time to their students if they were freed from many of the secretarial and technical chores now forced upon them.

IV. STUDENTS

The College serves students at both the undergraduate and graduate level. Because graduate students are more closely associated with their particular departments than with the College as a whole, however, this section of the report pertains primarily to the undergraduate students.

A. Enrollment

The College of Arts and Sciences was established in 1955. The total enrollment in the University and in each of its separate units in the fall of alternate years during the first decade of the College and for each of the past four years is presented in Tables 10 and 11. Enrollments are expressed in "head counts" and percentages, respectively, in these tables. The number of undergraduates registered as majors in the College has tripled since 1955, and the number of graduate students has grown from only a very few in 1955 to 1527 during the present year. Comparisons between the several Schools and Colleges are most easily made by reference to Table 11. The data reveals that approximately half of each group of students, undergraduate and graduate, has been enrolled in the College over the years though there has been a smaller increase in the number of graduate students in the College than in the other schools during the past four years. The number of undergraduates in the College is very close to five times the number in the largest of the other schools.

Data on the instruction provided by each of the departments and unofficial divisions of the College are presented in Table 12. The number of student credit hours (SCH) of instruction during the fall semester was 7.6% greater than a year ago. The increase in the number of student contact hours (SCoH) was 6.2%. The difference between the number of student credit and contact hours is a rough measure of the laboratory work which is a part of the teaching operation of particular departments.

The number of different courses (#Cour) and number of sections (#Sec) of these courses show increases of 7.5% and 13% respectively. The fact that there were 2587 sections of only 689 courses indicates an average of about four sections for each course. Thus, although the absolute number of courses offered last fall is 48 greater than the previous year, one continues to suspect that the College might better serve the students by providing a still greater number of different courses with fewer sections of each.

The extent to which individual instruction is provided undergraduates is measured by enrollment in "Special Problems" and "Senior Honors" (SP, H). While the number is still small, we are pleased to note that the total is more than twice that of a year ago.

The number of graduate dissertations in progress is indicated, too, in Table 12, under the headings "M.A." and "Ph.D." The continuous increase each year under the latter category is a measure of the growth of the graduate programs within the College.

The instructional activity of this College greatly exceeds that required only by those students with majors in one of its departments because the College

provides much of the general education of all University students. The total teaching effort of the College, undergraduate plus graduate, is shown by department and division in terms of full-time equivalent (FTE) students in Table 13. Construction of this table was accomplished by calculating the number of FTE undergraduate students on the basis of student credit hours (15 undergraduate student credit hours equals one FTE student) to the total of which was added the number of FTE graduate students as calculated by the Graduate School. The year to year increases in the total number of FTE students in the College are 12% and 6% respectively. This pattern is reflected in the divisional subtotals, except in the Fine and Performing Arts, but not in most individual departments.

A comparison between the number of FTE students enrolled in courses offered by the College in the fall of each indicated year and the number of majors in the College is presented in the table which follows:

	1966	1967	1968
FTE Students.	9877	11030	11710
Majors.	7094	7807	8398
$\frac{\text{FTE Students}}{\text{Majors}}$	1.39	1.41	1.39

The fact that the ratio of FTE students to majors exceeds a value of one is indicative of two things. First, some majors take more than 15 credits during a semester, though the significance of this as an explanation of the high value is reduced through the recognition that other majors take reduced loads. More important, then, is the fact that the ratio is a measure of the "service load" of the College, i.e., the teaching effort expended for instruction of students with majors in other schools within the University. Thus, nearly 30% of the total teaching load of the College during each of the past three years can be categorized as a service to students outside the College proper.

B. Teaching Loads

Table 14 shows the Student-Faculty ratio be department and division in two forms, first with only faculty positions used and then with graduate teaching assistants counted as sharing the load. The Teaching Assistant Equivalent is an approximation obtained by the rule that three teaching assistantships are equivalent to one FTE faculty position, and an assistantship results from an amount of money ($2700) available as an average stipend.

With the expansion of the graduate school and the attendant increase in effort on the part of the faculty in supervision of master's and doctoral theses, it becomes increasintly important to reduce the student to faculty ratio, which for each of the past three years has been as follows:

1966-67. . . . . 18.7

1967-68. . . . . 18.2

1968-69. . . . . 17.6

While I am pleased to recognize that the student-faculty ratio has been reduced for a third successive year, it must be reduced to 15 if we are to give increased attention to the individual student.

C. Majors

A "head count" of the total number of undergraduate and graduate majors, according to department and division, for the fall semester of each of the past three years is presented in Table 15. Such changes as may have occurred in the distribution of majors is marked in this table by the fact that freshmen and sophomores in the College are no longer required to specify a particular major. Thus 1118 undergraduates in the fall of 1968 are listed simply as "College of Arts and Sciences" as compared to 191 the previous year when an unspecified major was first approved.

In Table 16 we list only the upper-class, undergraduate majors by both the number and the percent of their total number during the spring of the years 1966 through 1969. The changes, which are most readily detected by a study of the percentages, reflect the concern of the students for what they describe as "relevant" to society today.

The percent of upperclassmen with majors in anthropology, psychology, and sociology, particularly, is increased whereas those in most foreign languages is decreased. The proportion of upperclassmen majoring in government, chemistry, physics, and mathematics appears to have declined also. The apparent decrease in pre-professional majors in the biological sciences is probably a consequence of a change in policy which involved greater selectivity for admission to the program; it probably is also an explanation for much of the increase in Zoology majors.

D. Degrees Awarded

A summary of the degrees awarded is presented in Table 17.

E. National Recognition of Outstanding Students

Again this year I am pleased to report that several students in the College have achieved national recognition for superior academic work and ability. Those so honored are listed below:

Danforth Graduate Fellowship Program -- Honorable Mention

Jonathan E. Edwards -- 1969, History

Woodrow Wilson National Fellowship Foundation -- Awards

Ilene J. Brenner -- 1969, Slavic Languages
Wayne H. Duckworth -- 1969, Mathematics
Thomas G. Hoffman -- 1969, Mathematics

Woodrow Wilson National Fellowship Foundation -- Honorable Mention

Janice L. Bouba -- 1969, Government
Joyce A. Lemkin -- 1969, Physics

Fulbright Award to Austria

Richard Geehr -- Graduate Student in History

Doherty Foundation Fellowship to Argentina

James Buchanan -- Graduate Student in History

Canadian Research Council Fellowship

Daniel Hobson -- Graduate Student in History

F. OFF-SCHEDULE GRADUATES

Students who graduate in February are "off schedule" as compared to most students. In an effort to learn something about such students, the records of those who graduated in February, 1969, were examined carefully.

It was apparent that the February graduates could be categorized according to the probable cause of their graduation at that time and that the academic averages of the groups of students differ considerably. The results of our analysis are presented in the table which follows.

Transfers are those students who had at least a year of study at another institution and earned at least 45 credits here. Early graduates entered the University in 1965 (summer or fall) and by advanced placement, overloads, or summer work, achieved graduation ahead of the normal schedule. Persons who needed extra time to get a 1.80 average, were the victims of an academic suspension, or used an extra semester to make up F's and W's are in the Academic Difficulty group. Other includes persons who lost time by choice: late change of major (7) or absent from the campus for awhile (31).

Included in each listed grade point average are those from 0.10 point below to 0.09 above that indicated, i.e., 2.7 includes all averages between 2.60 and 2.79. The distribution according to grade point average of graduates in each group is expressed as a percent of its own group. The number of February graduates in each group and its percent of the whole is shown at the bottom of the table.

CUMULATIVE AVERAGE	FEBRUARY 1969 GRADUATES					JUNE GRADUATES
	TRANSFERS	EARLY	ACADEMIC DIFFICULTY	OTHERS	COMPOSITE	
3.9						.3
3.7	6.3			2.6	2.4	1.2
3.5	2.1				.6	3.4
3.3	6.3	7.7		2.6	3.6	5.9
3.1	10.4	15.4		5.3	6.5	9.4
2.9	8.3	11.5		7.9	5.9	11.1
2.7	6.3	30.8	1.8	18.4	10.6	14.8
2.5	12.5	15.4	7.0	23.7	13.6	14.7
2.3	20.8	15.4	19.3	26.3	20.7	14.7
2.1	18.8	3.8	33.3	15.8	20.7	13.6
1.9	8.3		38.6		15.3	11.1
# OF GRADS.	48	26	57	38	169	997
PERCENTAGE	28.4%	15.4%	33.8%	22.5%	100%	

G. COMPARISON OF UPPER CLASSES AND LOWER CLASSES

Each semester the Registrar's Office publishes a summary of grade averages for various groups of students. One fact revealed by these reports is that in a spring semester the average of grades earned by juniors and seniors is somewhat above 2.6 while that of freshmen and sophomores is close to 2.3. There is some question as to how much of this difference arises from the increased academic maturity of the students and how much is a result of the withdrawal of students with the lower averages.

A related question continually confronts the Dean's staff. When a student who has been the victim of an academic dismissal applies for immediate reinstatement an academic dean is asked to evaluate the application. In a typical case, the question to be faced is: does the applicant have a reasonable chance of raising a 1.4 average earned during two years to the 1.8 average required for graduation?

Some twelve years ago, an extensive study was made of student performance during the first two years as compared to that of the last two years. The conclusions of the study were that a) a student's average for his last four semesters was a few tenths of a quality point higher than that for his first four semesters, and b) this is not uniform; students with four semester averages above 3.6 showed a slight decrease, those with averages 3.2 to 3.5 had no change, those with lower averages after four semesters had higher averages for their last four semesters, and the average gain increased as the four-semester average decreased.

In an effort to see whether these patterns had changed, a sample of June 1968 graduates was similarly examined. The records of 322 students, about 25 percent of the whole class, made up the sample. Knowing that the grading patterns in the sciences, in mathematics, and in the other divisions differ, the sample was first broken into three parts, mathematics majors, science majors, and others. The mathematics and science majors showed no significant differences and were combined.

The quality of the sample can be judged from the following comparison between the sample and the entire class according to their distributions by graduation averages and percentages of majors. The sample is slightly overweighted with mathematics and science majors. However, the whole class contains about 400 transfer students; these were passed over in collecting the samples. The transfer students, by and large, are not mathematics and science majors.

AVERAGE	MATH-SCIENCE MAJOR	OTHER MAJOR	NO. IN SAMPLE	SAMPLE % WITH AVERAGE	CLASS % WITH AVERAGE
3.60-4.00	3	3	6	2	1.5
3.20-3.59	15	22	37	11	9.2
2.80-3.19	25	48	73	23	20.4
2.40-2.79	20	89	109	34	29.4
2.00-2.39	10	67	77	24	28.3
1.80-1.99	3	15	18	6	11.1
NUMBER	76	246	322		
SAMPLE %	23.6	76.4			
CLASS %	20.4	79.6			

COMPARISON OF UPPER CLASSES AND LOWER CLASSES (continued)

The correlation between the academic averages for the two halves of a student's academic career in both groups is fairly high, the values of r are 0.55 for the mathematics-science group and 0.70 for the others. The more important results of the study are summarized in the table below. Note the confirmation of the results of the earlier study.

* * * * *

SUMMARY OF COMPARISONS OF AVERAGES
FOR THE LAST FOUR AND THE FIRST FOUR SEMESTERS

4-SEMESTER AVERAGE	CHANGE IN AVERAGE -.9	-.6	-.3	0	.3	.6	.9	1.2	TOTALS	MEAN
				MATH-SCIENCE MAJORS NUMBER OF STUDENTS						
3.60-4.00		1	1	2	1				5	-.12
3.20-3.59		1	4	5					10	-.18
2.80-3.19		1	4	5	6	3	1		20	.12
2.40-2.79		1	3	11	5	4	3		27	.19
2.00-2.39			1	4	2	1	2		10	.27
1.66-1.99					2	2			4	.45
COMBINED	0	4	13	27	16	10	6		76	.11
				OTHER MAJORS NUMBER OF STUDENTS						
3.60-4.00			3	1	1				5	-.12
3.20-3.59			4	7	3	1			15	.02
2.80-3.19	1	1	6	8	15	10	1		42	.19
2.40-2.79			11	11	25	14	3	1	65	.25
2.00-2.39			3	15	25	32	3		78	.37
1.60-1.99				4	9	16	8	3	40	.58
1.20-1.59							1		1	1.00
COMBINED	1	1	27	46	78	73	16	4	246	.31

H. FRESHMAN WEEK LECTURE SERIES

The College sponsored, for the third successive year, a series of lectures by distinguished faculty members for the entering students. These lectures had diverse subjects to provide for a wide variety of interests. The student response, as indicated by the combined audiences of over four hundred, attests to the value of this program and reinforces our determination to continue it.

The program follows:

Saturday, September 7, 1968 at 7:30 P.M.

1. Poverty in America
   Professor James K. Kindahl, Department of Economics

2. Continental Drift and the Spreading Sea Floor
   Professor Randolph W. Bromery, Department of Geology

Monday, September 9, 1968 at 3:00 P.M.

3. The Pueblo and the Pentagon: An Introduction to Modern Rhetoric
   Professor Walker Gibson, Department of English

4. The Campaign for the Presidency, 1968
   Professor William C. Havard, Department of Government

5. A Glimpse of Infinity
   Professor Haskell Cohen, Department of Mathematics

I. FRESHMAN SUMMER READING PROGRAM

The College of Arts and Sciences summer reading program for freshmen entered its second year this summer and fall with a slightly altered format. The number of paperback readings was reduced from five to two in hopes that a sizeable proportion of participants in the program would read both selections: A.S. Neill's Summerhill, and B.F. Skinner's Walden Two. Also, the discussion sessions with faculty were arranged in a more decentralized fashion than in 1967, a variety of discussions in Orchard Hill and Southwest Residential Colleges (plus one discussion for non-residential college freshmen) replacing the three all-campus discussions in the S.B.A. building.

In general, the summer reading program's second year was a greated success

FRESHMAN SUMMER READING PROGRAM (continued)

than the first. The continuing enthusiasm of students for reading Summerhill and the availability of an excellent film on Neill's school suggests strongly that the book should be used again.

Holding the discussions in Orchard Hall and Southwest greatly increased the number of freshmen participating in the program. The total number of students attending discussions more than doubled from approximately one hundred and fifty in 1967 to about three hundred and fifty in 1968.

J. CASIAC

CASIAC was established in 1967 for a dual purpose. It was to provide a source of information about departmental, College, and University academic rules and curricular requirements, and to serve as "major advisor" for those underclassmen who had not selected a specific major. In its first year, the Center served as advisor to approximately 200 students who had not declared a major. In this its second year, approximately 1100 students, including more than 55% of all freshmen in the College, elected the general Arts and Sciences major.

The marked increase shown here has been conditioned by two factors. Incoming members of the class of '71 were made aware of the non-specified CA&S major during summer counseling, and general student reaction to the services offered by CASIAC has been favorable. Although there was some turnover during the year, almost 85% of the freshmen who had elected to delay selection of a major have remained as CA&S majors.

The use of the Center has again been seasonal. Peak usage occurs early in each semester, at about mid-semesters, and again at preregistration time. The most significant use occurs during a period of about three weeks prior to and including the Counseling Day period. Counseling Day activities during April and May saw 60-70% of all majors appearing for preregistration advice and counsel. Throughout this period especially, CASIAC has benefited greatly from the services offered students by our team of faculty advisors.

During the summer, CASIAC participated in Freshman Summer Counseling on an advisory basis. University and College core requirements were discussed with all incoming Arts and Sciences students, and an attempt was made to check the adequacy of each preregistration program. We expect that this may become a regular summer activity of CASIAC.

This past year, CASIAC operated under the direction of Deans Livingston and Wagner, with assistance from Mrs. Mary Robinson who has served as staff assistant-secretary-student counselor. In addition, some 15 faculty members served as student advisors during periods of greatest activity. Two student assistants were added to the staff for the summer, and they will continue on a part-time basis throughout the year. CASIAC has recently moved to Room 153, South College (Entry A), where better facilities will enable its staff to more efficiently serve the students.

V. FACULTY

Information concerning faculty positions and faculty salaries is presented in Section II, Personnel, and its tables (Appendix A, Tables I-6).

A. PUBLICATIONS

Seventy books and monographs written by members of the faculty were published during the year (Table 18). Of these, seventeen were published by the presses of thirteen different universities.

Several hundred articles in professional journals plus chapters in books, poems, and book reviews were also published, and many papers were presented at professional meetings by members of the faculty. Works of art were exhibited and concerts presented in this country and abroad by artists on the faculty.

B. SPONSORED RESEARCH AND SERVICE PROJECTS

Much of the research accomplished by members of the faculty is greatly facilitated by the award of grants for support of particular projects by both outside agencies and the University itself. An accurate determination of the number of awards and contracts consumated and the annual value of these for the State's fiscal year is not readily accomplished. It is unusually complicated this year because of the ceiling on expenditures imposed by the National Science Foundation upon its awards.

Listed in Table 19 is a reasonably accurate, though conservative, summary of research support according to departments and divisions. The 94 grants with a total value of $44,892 made by the University Graduate Research Council are included; this number and amount is less than half that of the previous years.

Also included in Table 19 is the Treasurer's report of salaries paid during the fiscal year from non-State funds, at least 95% of which are reported to be funds from research and training grants. The total of these salaries for each of the last four years is presented below; the figures demonstrate the continuing growth of research support.

FISCAL YEAR	TOTAL SALARIES FROM NON-STATE FUNDS
1966	$ 817,456
1967	$1,136,715
1968	$1,287,428
1969	$1,489,395

C. OTHER PROFESSIONAL ACTIVITIES OF THE FACULTY

A complete list of the professional activities of the faculty would be voluminous, yet a meaningful summary is nearly impossible because of the diversity of activities. Many of the faculty have made significant contributions on the campus to their

Other Professional Activities of the Faculty, continued

departments, the College and the University through work on a wide variety of committees, and through advising students and student groups. Others have contributed indirectly through activities associated with professional societies and advisory boards of federal support programs.

Table 20 is a compilation of those professional activities of the faculty which involve membership on editorial boards or advisory boards of national organizations, office in a regional or national professional organization, participation in a symposium sponsored by a national agency, or other activity which is thought to be of national significance.

D. FELLOWSHIPS AND OTHER SPECIAL RECOGNITION ACCORDED MEMBERS OF THE FACULTY

1. Outstanding Teacher of the University Award. Each year two or three members of the University faculty are especially honored for their outstanding teaching. The College is proud to report that two members of its faculty were so honored at the convocation which opened the present academic year.

Dr. Earl J. McWhorter, Associate Professor of Chemistry: During recent years Professor McWhorter has taught courses in organic chemistry for non-majors and for majors and graduate-level courses in this field.

Dr. Thomas O. Wilkinson, Professor of Sociology: During recent years Dr. Wilkinson has taught the introductory course as well as graduate courses in demography.

2. Honors for Distinguished Scholarship, Prizes and Awards of Special Fellowships. The College is proud to recognize that those members of its faculty who have been accorded honors for their distinguished scholarship or have been awarded special fellowships and others who have received special citations.

FINE AND PERFORMING ARTS

Bevilacqua, Vincent	--	Speech Association of America award for his studies on eighteenth-century rhetorical theory.
Gongora, Leonel	--	National Academy of Arts and Letters, Award for Painting.
Stern, Robert	--	MacDowell Colony Award for Music Composition for August 1969.
Volbach, Walther	--	Theatre Library Association award for his study of Appia.
Wallace, Karl. R.	--	Speech Association of America award for his book on Francis Bacon.
Young, M. James	--	Speech Association of America award for his study of the York pageant wagon.

HUMANITIES

Ackermann, Robert	--	John Simon Guggenheim Memorial Foundation Scholar, 1968-69.
Greenbaum, Louis	--	National Institutes of Health Special Fellowship - Harvard, 1968-69.
Heidelberger, Herbert	--	Howard Foundation Fellowship, 1968-69.
Junkins, Donald	--	Second Prize, 1968 N.E. Press Association Award.
Langland, Joseph	--	Fourth Place, Annual Poetry Award, Chicago Tribune.
Memz, E.	--	Received the Schiller-Förderungspreis and the Gerhart Haputmann-Preis for his play Tübinger Mahizeit.
Springer, William	--	Fulbright Travel Grant to India, Summer 1968.

SOCIAL SCIENCES

Appley, Mortimer H.	--	Elected Fellow, Canadian Psychological Assoc.
Connolly, William E.	--	Recipient of Carnegie Fellowship to attend the 1969 Summer Institute on Political and Legal Philosophy, Irvine, California, June 23-August 1.
Halpern, Joel M.	--	National Institutes of Health, Special Postdoctoral Research Fellowship, 1968.
Helson, Harry	--	I. H. Goodfellow Award, Inter-Society Color Council, April, 1969.
Myers, Jerome	--	NIH Special Fellowship to University of London for 1969-70.
Park, Peter	--	Fulbright-Hayes Research Grant, Italy, 1968-69.
Yaukey, David	--	Appointed to United Nations' Latin American Demographic Center, Santiago, Chile, for 1968-69.

SCIENCE-MATHEMATICS

Gawienowski, A. M.	--	NIH Fellowship
Lillya, C. Peter	--	Alfred P. Sloan Fellow
Pfau, C. J.	--	National Institutes of Health Career Development Awardee.

Rausch, Marvin D.	--	Alexander von Humboldt Foundation Fellow
Roberts, L.S.	--	NIH Special Fellowship to Johns Hopkins University
Siggia, Sidney	--	Anachem Award
Stein, Richard S.	--	Fulbright Visiting Professorship at Kyoto University
Stein, Richard S.	--	International Award in Polymer Science and Engineering, Society of Plastics Engineers
Stone, Marshall H.	--	A symposium in honor of Professor Stone was held at the Institute of Mathematical Sciences, Madras, India, in December 1968, during his visit to that country.

3. Faculty Growth Grant Recipients. Sixteen members of the faculty of the College were awarded Faculty Growth grants by the University to support their research, scholarly or creative work during the summer of 1969.

Beekman, Eric M.	--	English
Boyer, Paul S.	--	History
Chaney, Iris	--	Art
Freeman, James A.	--	English
Harrison, William	--	Anthropology
Junkins, Donald	--	English
Mackier, Jerome	--	English
Oates, Stephen	--	History
Parks, Susan	--	Art
Parroissian, David H.	--	English
Peter, Klaus	--	Germanic Languages
Ryavec, Karl W.	--	Government
Teunissen, John J.	--	English
Townsend, John	--	Art
Treyz, George L.	--	Economics
Wilkis, Richard W.	--	Geography

VI. MAJOR ACCOMPLISHMENTS AND SPECIAL PROGRAMS

A. CURRICULAR REVISION

The process of curricular review and revision which had been started in 1965-66 was hopefully scheduled for completion by the end of the 1968-69 academic year. However, developments within both the College and the University made it impossible to keep to the schedule. Nevertheless, significant advances, summarized below, were made during the year.

1. Honors Program. The College faculty voted 310 to 33 in September, 1968, to approve the Honors Program as proposed by the Interim Honors Committee in the previous spring. Professor Everett Emerson of the English Department was appointed chairman of the Honors Committee (in addition to his role as Director of University Honors). Details of the Program were successfully worked out during the year.

2. Foreign Language Instruction Committee. The work of this Committee, under the chairmanship of Professor Irving Rothberg, Romance Languages, culminated in the preparation of a proposition, submitted to the vote of the College faculty, calling for the substitution of a foreign language qualification for the College's existing foreign language requirement. This proposition won by a vote of 204 to 122 over another calling for neither a qualification nor a requirement in foreign language. The qualification can be demonstrated in several ways: study in high school of four years of one language or three years of one and two of another; scores above a certain level in either a CEEB test or a University-devised test; and course work. Students with a demonstrated difficulty in a foreign language may substitute appropriate course work dealing with a foreign culture.

3. Rhetoric Committee. The Ad Hoc Rhetoric Committee has recommended the substitution of six credits of work in newly devised rhetoric courses (involving written or oral communication) for the present required four credits in composition and two credits in speech. This recommendation has been reported to but not yet considered by the College faculty.

4. "Education for Living: A Program for the '70's." A report under that title and containing "curriculum, program and grading revision proposals for the College of Arts and Sciences" was prepared by the Academic Affairs Committee of the Student Senate and unanimously endorsed by the Senate itself.

This first-rate report contains a number of recommendations which closely parallel a number of recommendations which were being simultaneously developed by faculty committees.

5. A Proposal Relating to Qualifications for the Bachelor of Arts Degree in the College of Arts and Sciences. Just before the end of the academic year Acting Dean Shapiro circulated to all members of the College faculty a memorandum under the above title which embodied recommendations for a drastic revision of the existing College graduation requirements. The proposal is the product of an extensive cooperative effort. As the Dean's memorandum put it: "I must emphasize that it (the proposal) is in a real sense the product of the efforts of many hundreds -- perhaps as many as several thousand -- of faculty and students over the past three years who have been directly involved in the review process. Moreover, more than a

hundred faculty members and students, as committee chairmen and members and as interested individuals, have contributed substantial memoranda on various aspects of the problem of the College's curriculum. Behind the memoranda stand an uncounted number of man-hours of thought and labor."

Perhaps the contents of the memorandum can best be summarized simply by listing the proposed qualifications for the B.A. degree:

1. The successful completion of at least 120 credits (exclusive of required physical education) with a minimum of 48 credits in upper division courses.

2. Either the completion of a departmental, divisional or programmed major or the status of an independent scholar.

3. A minimum of 12 of the 120 graduation credits in each of the two divisions of the College outside the one in which the major program falls.

4. The satisfaction of a six-credit rhetoric requirement.

5. Either a qualification in a foreign language to be demonstrated in a number of ways or no College-wide requirement or qualification. (Note: As pointed out above the College faculty has already approved the qualification by a decisive majority.)

The Dean also announced that a general faculty meeting, or a series if necessary, will be held in September, 1969, to discuss the proposal and in addition expressed the hope that a final decision on the proposal may be made by means of a general vote of the College faculty before the end of the calendar year.

B. COLLEGE REORGANIZATION

The necessity for instituting a search for a new dean for the College created the occasion for a broad discussion of the possibility of reorganizing the College into more manageable units, something that had been talked about informally for several years. Under the leadership of Acting Dean Shapiro, who drew up a plan involving several alternatives, the College faculty met twice in general meetings for discussion of the question.

As a result of the discussions at the two meetings and of proposals presented by individual faculty members a mail ballot was submitted to the faculty in mid-May. The ballot was in two parts and the results were as follows:

Part I. Proposition I. The College of Arts and Sciences to continue as presently organized, but positive means be sought to improve its internal structure, its government and its general administrative effectiveness. Received 130 votes (36% of those cast.)

Proposition II. The present College to be organized into an associated group of Colleges of Arts and Sciences with a common curricular foundation for its students but with separate deans. Received 231 votes (64% of those cast).

Part II. Preference among suggestions for possible reorganization under Proposition II.

(College Reorganization, continued)

151 votes (53%) for three Colleges: Fine Arts and Humanities; Natural Sciences and Humanities; Social and Behavioral Sciences.

103 votes (36%) for four Colleges: Fine Arts; Humanities; other two the same as above.

29 votes (10%) for a six-College arrangement.

It therefore seems clear that the faculty are in favor of partial separation into three Colleges. Department Heads had earlier indicated their near unanimous approval of this same form of restructuring the College.

The results of the faculty vote were reported to the University administration. However, no steps were taken on this recommendation for College reorganization because of the resignation of President Lederle, the possible resignation of Provost Tippo and the possibility of a reorganization of the entire University system.

C. REPORT OF THE CURRICULUM COMMITTEE

I. During the year several general questions came to the Committee's attention. A concise summary of the Committee's recommendations is included for your information.

A. Major Programs

Dean Hunsberger asked the Curriculum Committee to study the feasibility of non-departmental or divisional majors. After discussions which extended over several meetings, the Committee reported these recommendations to the Dean:

A formally recognized major program should a) have a unifying principle, b) have faculty directions, and c) for a minimal major, consist of at least 24 credits in a coherent program. These credits need not all be in one department and they need not all be in upper-division courses, but fifteen of them must be. These credits are designated by the administering authority either as specific courses, as choices from a list of courses, or as courses in certain disciplines. Every major program should leave the student at least twelve completely free elective credits; d) every candidate for a Bachelor's degree should be required to complete a major, but he should not be required to complete more than a minimum major as defined above.

e) The College should develop more interdisciplinary area majors; some of the likely ones are:

American Studies	Middle Eastern Studies	African Studies
Latin American Studies	Emerging Nations	Population vs. Resources
Far Eastern Studies	Russian Studies	Urban Problems

Each one should have a faculty committee to foster its development and to direct it.

f) The College must encourage its departments and disciplines to develop and to recognize minimal majors which parallel the traditional ones; several parallel programs within a discipline are not to be discouraged.

g) The College should encourage the development of divisional and composite majors. A composite major is one which combines disciplines from more than one division. Each formally defined major of either of these types should be sponsored by a standing committee of the faculty.

h) There should be provision for individualized majors. Our recommendation is: any student may draw up, by the end of his sophomore year, his proposed individual program in detail, obtain the supporting signatures of two faculty members whose fields are pertinent to the program and submit it to an academic dean for approval. The supporting faculty members will, by their signature, agree to assume advisory responsibility for the student. When the dean approves such a program, it becomes an acceptable individual major program which will be handled through CASIAC. All such majors will be grouped together as College of Arts and Sciences Special Programs and have

C. REPORT OF THE CURRICULUM COMMITTEE (continued)

a code such as "CAS SP". Modifications of such a program require approval by two faculty members (one of whom should be an original sponsor) and by the Dean. The Dean's role in this process is more to serve as a clearing house than as a watchdog.

B. College Graduation Requirements

There was discussion of the College's role as opposed to the Departments' roles in the certification of students for graduation. The discussion emphasized the diversity of disciplines within the College, the confusion and the duplication of effort arising from three sources of graduation requirements, and the importance of encouraging as close a relationship as possible between the student and the professors in his major. A unanimous vote approved the motion quoted below. However, at the next meeting of the Committee, a motion to reconsider was passed. Further discussion centered on the absence of a foreign language requirement, and the motion was again voted upon, this time with one vote in opposition and the rest in favor. It was understood within the Committee that in case some such policy was adopted, each of the present and all new major programs would be asked to clarify its position concerning each of the requirements affected by this change.

Motion: That the College of Arts and Sciences have just this one requirement in addition to the several University requirements for a baccalaureate degree: each student must complete one of the approved major programs of the College.

C. New Major Programs

Two new major programs within the College were approved, one in Geography and one in Italian.

II. The Committee reviewed proposals for 132 new undergraudate courses, proposals for modifying 51 others, and the termination of 8 courses.

Eighteen of the new courses were part of the new major programs; another 20 new courses activate the newly established Honors Program for the College.

The History, Psychology and Zoology Departments revised their major programs. These revisions accounted for 28 of the new courses and 34 of the modifications.

Two new Masters degree programs were examined, Art History and Teaching Latin and Classics. There were 41 new graduate courses and 34 modifications of graduate courses involved in the revisions of the graduate programs in German and Psychology.

D. REPORT OF THE ACADEMIC HONESTY COMMITTEE

The Academic Honesty Committee, whose members were Professors Luther Allen, Thomas Andrews, John Robison, and Gregory Webb, Deans MacFarland, Rollason and Wagner, and Stephen Walt, 1970, found that the provisions of the Code of Student Conduct, which requested the establishment of the Committee, formed a poor framework for its operations. Consequently, much of the Committee's effort was devoted to the preparation of a report clarifying the procedures for dealing with instances of academic dishonesty.

The Committee held three hearings, each of which involved a recommended penalty for a breech of academic honesty which the student felt was too severe. There were seven other penalties imposed via the Committee, but no hearings were involved.

E. AD HOC COMMITTEE ON COLLEGE GOVERNMENT

Former Dean I. Moyer Hunsberger appointed an Ad Hoc Committee on College Government under the chairmanship of Professor Ronald Reid, head of the Speech Department, in the fall of 1968. The Committee prepared a report, the central feature of which was a well-considered proposal for a substantial strenghtening of the faculty role in College affairs by means of a representative Council. However, the submission of the report coincided with the discussion of the possible reorganization of the College. Consequently, the report cannot be considered by the faculty until the issue of reorganization is settled. However, it will merit careful consideration by those academic administrative units which may develop in place of the College as it now exists.

F. SPACE ADJUSTMENTS, SUMMER, 1968

The primary consideration in the reassignment of space to departments in the College of Arts and Sciences was the utilization of Thompson Tower which became partially ready for use in early August. The fact that only floors two through ten were available before November meant that there was considerable confusion about the furniture which was intended for the first floor.

In the design stage of the building, it was planned that the occupants would be the Economics, Government, Mathematics, and Sociology Departments. By late 1967 it became apparent that these occupants could not be accommodated beyond the 1968-69 academic year in the building. Consequently, the History Department was moved into Thompson Tower (until Herter Hall was completed) instead of Mathematics. The Audio-Visual Center occupied the offices in the basement of the west building.

The space which History left in Arnold House provided expansion room for Mathematics, space for Statistics, and temporary space for overflow from Art and Physics.

The Bureau of Government Research moved into Thompson Tower with the Government Department. East Experiment Station reverted to the control of the Planning Office and the Provost.

Space Adjustments, continued

The space in Machmer vacated by the Economics, Government, and Sociology Departments provided expansion room for German and Anthropology, absorbed some overflow from History, English, Physics, and Speech, and provided a base for the Honors Program.

In Bartlett Hall there were only minor changes in space assignments.

In Morrill Hall, the Geology Department lost the use of four room to the Library.

The work in Berkshire House was slow, and Psychology did not get the use of the Clinic until November.

G. OVERSEAS PROGRAMS

1. Freiburg Program. The Board of Trustees approved a three-year extension of the Freiburg Program on the basis of recommendations by the Freiburg Committee, chaired by Professor Gerard Braunthal until January, 1969, and Professor Peter Fliess thereafter. Henceforth the Program will be on a broader academic basis on this campus and calls for the development of a student/faculty exchange program. The Freiburg Committee will be responsible for the administration of the Program's academic affairs and the Office of International Programs for its general administration.

The program in Freiburg during the year 1968-69 was under the direction of Dr. Vaclav Holesovsky, Associate Professor of Economics; Dr. Laszlo Martin Tikos, Associate Professor of Slavic Languages and Literatures, and Dr. Wolfgang Bernard Fleischmann, Professor of Comparative Literature, were in residence during the first and second semesters, respectively. Thirteen graduate students, nine of them German majors, three Philosophy and one English, and eight undergraduates participated in the Program.

2. Bologna Summer School Program. The University of Massachusetts Summer School Session in Bologna, Italy, was held June 15 through August 30 with forty-seven students from both the University and other institutions participating. As in the past, the Bologna Program was concerned with subject matter that was particularly relevant to the Italian and general European environment. Courses were offered in Renaissance Art, Elementary Italian, History of Ancient Italy, Comparative European Governments, and European History Since 1918.

Professor Howard H. Quint, of the Department of History, was in general charge of the program and Professor George Kirk, also of the History Department, had supervisory responsibilities in Italy.

In addition to their regular course work, students went on field trips to Florence, Ravenna, Siena, Pisa, San Gimigniano, Venice, Padua, Assisi and Rome. At the end of the program of formal study students were free to travel on their own in Europe for approximately three weeks before returning to the United States.

The cost of the program, including transoceanic transportation, field trips in Italy, tuition, library and health fees, and room, was $700 for Massachusetts state residents and $730 for out-of-state students.

Overseas Programs, continued

3. Oxford Summer Seminar. The University of Massachusetts-sponsored Oxford Summer Seminar convened again in St. Hilda's College. The dates were July 2 to August 3, 1968. Six undergraduate and six graduate courses were offered, all taught by English dons.

The Seminar numbered 140 students, 55 graduate, 85 undergraduate. About forty percent of the group came directly from the University of Massachusetts or had had previous association at Amherst. Smith sent four girls; Mt. Holyoke eight. Outside the 5-college area the program listed thirty-three other colleges and universities, including Berkeley, the University of Washington, Radcliffe, Dartmouth, Barnard State University of Oklahoma, Florida, Wesleyan, Hamilton, Yale, Douglass, etc.

The Seminar tried to combine the intellectual with the getting-acquainted-with-England, with personalities, with habits and style and even sports. The World Cup, Wimbleton numbered members of the Seminar in the audience -- as did the Gilbert and Sullivan Festival in Oxford annually sponsored by D'Oyle Carte. All members of the Seminar journeyed to Covent Garden for Don Giovanni and to Stratford on Avon for Coriolanus. They visited Salisbury, Coventry for the new cathedral and a production of miracle plays in the shell of the old cathedral; they saw Stonhenge, and Hatfield House; Henley; the sights of London. Every student was sworn in as a Reader of the Bodleian Library.

Still the main value academically of the Seminar is the transplanting of Massachusetts courses to Oxford soil, with Oxford dons officiating. We use young, dynamic dons and their love of learning as well as their very human qualities impress students greatly. The "place" is a fertile ground for the growing and even re-assessing of masters' and doctoral dissertations.

4. Madrid Graduate Summer Seminar. Completion of the second "Hispanic Studies in Madrid" Program showed a definite growth over last year's first venture. There were six undergraduate and ten graduate students representing seven states across the nation plus one graduate from Ethiopia. The Program was housed in the Instituto Internacional in Madrid with the participants residing in selected private homes.

Two seminars and three courses were offered; the undergraduates could take any two of the three courses or with special permission, one course and one seminar. The graduate students could take the two seminars or one seminar and one course, excluding the art course "Los grandes maestros en el Prado" which was for undergraduate credit only. Six credits is the maximum which may be earned.

The faculty was made up of the following distinguished university Hispanists offering the courses or seminars as follows:

Professor Pedro Laín Entralgo.	Seminar: La Generación del '98 - vida y literatura española.
Professor Carlos Bousoño.	Seminar: Poesía española contemporánea.
Professor Ciriaco M. Arroyo.	Seminar: Menéndez Pidal: Cien años de crítica literaria en España. (Study of the schools of modern criticism - root work El Quijote.)
Professor Juan Díez Taboada.	El Romanticismo español. (Fondo and four plays in depth.)
Professor José Luis A.-Misol.	Special Problems. (Spanish Art) (Los grandes maestros en el Prado.)

Overseas Programs, continued

Two integrated day trips and one weekend trip to centers of literary/historical/cultural interest were included in the course fees: Segovia, Avila and El Escorial, and Cuenca. The Spanish government, through the courtesy of Sr. Ramón Bela, Coordinator for the Fullbright program in Spain, was most cooperative and issued special identification cards which entitled the bearer to discounts on all sorts of expenses; theatre tickets, library fees, etc. and permitted use of such facilities as the University of Madrid swimming pool, tennis courts, etc. The program ended with the opportunity for ten days of independent travel or an optional guided tour of Andalucía.

H. OTHER SPECIAL PROGRAMS

1. Summer NDEA Institute for Advanced Study in English. A six-week Institute for Advanced Study in English, funded by the United States Office of Education as authorized under Title II of the National Defense Education Act, was conducted on campus for the third consecutive summer. Participants were forth-two experienced secondary teachers of English selected from schools throughout the country. Courses were offered in three areas. A composition course defined some of the problems of teaching writing and worked toward an increased sensitivity to the voice of the speaker in prose, an imporved awareness of the options available for creating a voice and a larger sense of responsibility for making linguistic choices. A poetry course combined a historical approach with a close reading of individual poems, especially those poems most appropriate to high school students. A criticism course presented the essential principles and problems of literary criticism, guided participants' reading of several novels, plays and stories in the light of these methods and helped develop their ability to select the most effective approaches to particular works. Richard O. Ulin directed the Institute. Others on the staff were the following members of the University of Massachusetts faculty: Charles S. Adams, Leon O. Barron, Wolfgang B. Fleischmann, Walker Gibson, John A. Nelson and Jack Troutner. Other staff members were Marianne Adams and Joan Bramwell of Smith College and Martin Halpern of Brandeis University. Guest lecturers were Benjamin DeMott of Amherst College and Walter Hallenborg of the Greenwich Public Schools.

2. NDEA Institute in History. The last of a series of three summer institutes in History under the direction of Professor Dean Albertson was conducted from June 24 to August 19, 1968. Thirty high school teachers of history, art, music and literature, half of them from the greater Springfield area, were the participants in a program directed toward the development and implementation of an "interdisciplinary approach" to the social studies.

The formation of a "Monitor Committee" to work with the participants from the Springfield area during the 1968-69 academic year and evaluate changes in social studies teaching and curriculum was created as a part of the Institute. Its report will be submitted at a later date.

3. Research Participation for College Teachers of Zoology. During the summer of 1968, a research participation program supported by NSF Grant GY4124 provided opportunity for four college teachers from other institutions to engage in full-time research under the direction of faculty of the Zoology Department. They were:

Other Special Programs, continued

University of Massachusetts Faculty Sponsor	Participant
L. M. Bartlett	Dr. Frederick W. Davis, Assistant Professor of Biology, Fitchburg State College (Mass.)
W. B. O'Connor	Dr. Joseph P. Farina, Associate Professor of Physiology, Lowell State College (Mass.)
Y. Kato	Dr. Ralph B. Priddy, Associate Professor of Biology, Wagner College (New York)
W. B. Nutting	Dr. Edward A. Warnhoff, Professor of Biology, Louisiana College (La.)

At the end of the program Drs. Davis and Warnhoff were nominated for Academic Year Extensions, and subsequently the home institution of each received a grant of $2000 to support continuation of the participant's research over a two-year period.

4. Writers Workshop on Nantucket. Two accredited workshops were repeated by Professor John Mitchell, Director, and Professor Richard Kim, at the Nantucket facilities. Because these facilities permit only thirteen students to live in, enrollments were limited to sixteen (the overflow finding their own housing elsewhere on the island).

The first (Catalog Course 334/624, Advanced Technical Writing) was attended by eight graduate students and five undergraduates. The second (Catalog Course 345/781, Imaginative Writing) was attended by eight graduate students and four undergraduates. In addition to the instructors each workshop featured five guest lecturers of national reputation.

5. Senior Mathematicians On Lecture Tour. This program, as the name implies, is designed to bring distinguished mathematicians to the campus for consultation over a period of a few days and the presentation of one or more lectures. The program was as follows during the 1968-69 academic year:

J. M. Jauch, Institut de Physique Théorique, Université de Genève: three lectures on "Scattering Theory."

Eugene P. Wigner, Nobel Prize winner in Physics, Princeton University: a lecture on "The Attitude of Present Science Toward the Problem of Life."

Richard V. Kadison, University of Pennsylvania: three lectures on "Some Analytic Methods in the Theory of Operator Algebras."

G. W. Mackey, Harvard University: three lectures on "Induced Representations in Quantum Mechanics."

Jean Dieudonné, Université de Nice: three lectures on "The Algebraic Aspects of the Theory of Lie Groups."

Joram Lindenstrauss, University of Jerusalem: three lectures on "Banach Spaces."

Other Special Programs, continued

6. Orthomodular Lattice Conference. This conference, under the direction of Dr. D. J. Foulis, Professor of Mathematics, was sponsored by a National Science Foundation grant. It was held from August 3 to August 10, 1968, at the University of Massachusetts. Lectures were delivered by:

S. S. Holland, Jr., University of Massachusetts
C. H. Randall, University of Massachusetts
Jean Claude Derderian, State University of New York at Rochester
Stanley Gudder, University of Wisconsin
M. F. Janowitz, University of Massachusetts
J. C. T. Pool, University of Massachusetts
Richard Greechie, Kansas State University
Gerard Emch, University of Rochester
James Abbot, U. S. Naval Academy
Donald Catlin, University of Massachusetts
James Dacey, Kansas State University
Margaret Maxfield, Kansas State University

I. RECRUITMENT OF FACULTY

The College has recruited a total of 110 persons as full-time members of its faculty for the year ahead (Tables 21 and 22). An additional eleven positions were filled by a greater number of part-time appointments to the faculty and two positions were converted to that of Staff Assistant. Thus, through the strenuous efforts of its faculty, and particularly of its Department Heads, the College succeeded in recruiting persons for 123 full-time-equivalent positions.

Forty percent of the new, full-time members of the faculty have been appointed to the rank of professor or associate professor. New appointments of scholars experienced in the guidance of doctoral candidates is essential for the growth of both graduate and undergraduate programs.

The number of vacant faculty positions and their distribution according to rank is presented in Table 23. The total number, 27.5, is greater than that of previous years because of the freeze on positions imposed in early spring.

VII. FUTURE PLANS AND NEEDS

A. General Comments:

I was first tempted to use only the single word MONEY in this section of the Annual Report. It is clearly our major, overwhelming problem. More rational thought brought me to this more extensive statement of our needs and future plans, for they do, in truth, exceed purely financial matters.

B. Specific Items:

1. College Reorganization:

I shall very soon present a more detailed plan for the Colleges of Arts and Sciences. The faculty vote of last spring indicated their endorsement of a partial separation into three colleges. The Board of Trustees seemed to received the idea cordially when I presented it informally to alert them to the idea. I hope this reorganization can be effected within the next few months.

The plan will be presented to the Department Heads, then to the faculty and to the Faculty and Student Senates. Following their response it can be presented to the Administration, hopefully for rapid transmission to the Board for final approval. If this course is run successfully, I urge an immediate search for the necessary three Deans and the interim appointment of three Acting Deans.

I shall recommend that all three Deans and their staffs be housed in South College. They can all be accommodated with some renovation and remodeling. The advantage of this is that it allows them to be in active communication and also to share in two general staff offices which I believe to be essential to the plan: an Office of Professional Personnel (to keep central staff records and to process new faculty, etc.) and a Business Office (to keep financial records and other staff-type activities).

2. Non-professional Staff:

Dean Hunsberger has stressed the need for greater University control of employment of non-professionals in his annual reports of the past few years. The problem has only increased in significance this year. Sooner or later, and I urge that it be sooner, this must be faced squarely by presenting legislation to the General Court which will allow us to have the same rights we now enjoy with the professional staff.

3. Graduate Student Support:

We increased the number of Teaching Assistantships substantially this year. Our need is to continue this proportionally in the future and to continue to raise the level of support. We also need to allocate assistantships for other than direct classroom use. This is especially important in the humanities and social sciences. In some of these departments it is necessary, because of lack of support, for students to take positions before they complete their disseration. We, in turn, employ some one else's grad students as Instructors. The results, to all parties, are destructive. Some of our difficulties last year in the History Department are directly traceable to this barbaric procedure. I believe we should convert all Instructorships

3. Graduate Student Support, Continued:

held by grad students of other schools into assistantships for our own students and cease recruiting at that level. With some additional funds this will give us the money to keep our students on support until they finish. As long as we had the support I would even go so far as to say students should be forbidden to take regular employment until they have the Ph.D. This entire problem is one which I shall call to the attention of the appropriate new deans when they are appointed.

4. Overscale Appointments:

I suspect the time is at hand for consideration of going to the General Court again for another 1% for overscale appointments. With the present allocation just about used up, with the increased ease of attracting top-flight faculty, with a larger number of present faculty nearing the top of the present salary scale, we shall face problems on several fronts without this salary relief.

5. Support Budgets:

This is principally where the single word MONEY applies. All of our support accounts are in deplorable condition.

It is preposterous to make travel allocations on the basis of $50/professor/year, and to call ourselves a "university". It is equally preposterous to be forced to discontinue the SEUIB fund at a time when our ability to attract leading figures is increasing. These problems are recognized within the University, but our efforts to get the necessary increases in appropriations from Boston need to be increased. In the interim we would benefit considerably from developing an internal system which allows for greater flexibility among accounts.

TABLE 1: PROFESSIONAL POSITIONS (FTE) FILLED BY RANK

(See text - Page 10)

(a) Administration	1966	1967	1968
Dean	1	1	1
Vice-Dean	0	1	1
Associate Dean	1	1	2
Assistant Dean	2 1/2	2	1 1/2
TOTALS	4 1/2	5	5 1/2

(b) Faculty			
Professors	117 (22.0%)	123 (20.3%)	141.7 (21.2%)
Associate Professors	94 (17.7%)	125 (20.6%)	143 (21.4%)
Assistant Professors	213 1/2 (40.2%)	238 1/4 (39.3%)	272.3 (40.7%)
Instructors	93 1/4 (17.3%)	103 (17.0%)	91.4 (13.6%)
Lecturers	14 3/4 (2.8%)	16 3/4 (2.8%)	19.6 (2.9%)
TOTALS	532 1/2[1]	606	668

(c) Non-Teaching			
Staff Associates	1	1	2
Staff Assistants	7	7	7
Professional Tech.	1	1	1
TOTALS	9	9	10

(d) Teaching Assistants[2]	353	408	472

(e) Postdoctoral Research Associates (Not on State Funds)			
Biochemistry	0	3	3
Botany	0	1	0
Chemistry	11	7	14
Mathematics	0	1	0
Microbiology	0	1	2
Physics & Astronomy	2	4	11
Psychology	0	0	1
Sociology	2	1	0
Zoology	14	8	9
TOTALS	29	26	40

* * * * *

Footnotes

1 There were 1 5/6 unfilled faculty positions, giving a total of 533 1/3 faculty positions (FTE).

2 This FTE figure was obtained by dividing the total allocation for TA's by the budgeted average stipend. The appropriate amounts were:
1966 - $ 847,200 allocated; average stipend $2,400
1967 - $1,102,350 allocated; average stipend $2,700
1968 - $1,274,400 allocated; average stipend $2,700

TABLE 2, continued

	1966						1967						1968					
Biological Sciences	(1)	(2)	(3)	(4)	(5)		(1)	(2)	(3)	(4)	(5)		(1)	(2)	(3)	(4)	(5)	
Botany	4	5	7.7	0.5	0	= 17.2	3	5	8.7	1	0	= 17.7	6	5	6.7	1	0	= 18.7
Microbiology	2	0	6	0	0	= 8	2	2	3	0	0	= 7	2	2	5	0	0	= 9
Zoology	7	6	10	3	0	= 26	8	4	14	1	0	= 27	8	4	14	1	0	= 27
TOTALS	13	11	23.7	3.5	0	= 51.2	13	11	25.7	2	0	= 51.7	16	11	25.7	2	0	= 54.7
Physical Sciences																		
Biochemistry	1	3	1	0	0	= 5	1	3	1	0	0	= 5	1	3	2	0	0.5	= 6.5
Chemistry	8	6	14	7	0	= 35	9	7	14	6	0	= 36	10	6	13	6	0	= 35
Geology-Geography	2	5	4	2	0	= 13	2	7	5	3	0	= 17	3	7	6	1	0	= 17
Physics-Astronomy	5	9	16	1	0	= 31	6	12	19	1	0	= 38	8	12	20	0	0	= 40
TOTALS	16	23	35	10	0	= 84	18	29	39	10	0	= 96	22	28	41	7	0.5	= 98.5
Mathematics/Statistics**																		
Mathematics	9	7	22.7	7	2.3	= 48	10	12	21	9	5.5	= 57.5	11	11	28.2	10.5	7.8	= 68.5
Statistics	1	0	2	1	0	= 4	1	0	1	0	0	= 2						
TOTALS	10	7	24.7	8	2.3	= 52	11	12	22	9	5.5	= 59.5	11	11	28.2	10.5	7.8	= 68.5
Interdepartmental Programs																		
Asian Studies	1	0	0	0	0	= 1												
Chinese	0	0	0	0.5	0	= 0.5												
Japanese	0	0	0	0.2	0	= 0.2												
TOTALS	1	0	0	0.7	0	= 1.7												
COLLEGE TOTALS	117	94	213.5	93.2		=532.5	123	125	238.3	103	16.7	=606	141.7	143	272.3	91.4	19.6	=668

* The Bureau of Government Research is a part of the Government Department.

** Mathematics and Statistics were consolidated into one department 11/06/68.

TABLE 2: FACULTY POSITIONS (FTE) FILLED BY DIVISION, DEPARTMENT, AND RANK: FALL SEMESTER

(See text - Page 10)

The number of positions of Professor (1), Associate Professor (2), Assistant Professor (3), Instructor (4) and Lecturer (5), respectively, and the total number of positions in each department, are indicated by the series of numbers in each column.

	1966						1967						1968					
Fine Arts	(1)	(2)	(3)	(4)	(5)		(1)	(2)	(3)	(4)	(5)		(1)	(2)	(3)	(4)	(5)	
Art	3	2	6	6	1	= 18	3	3	8	4	1	= 19	5.5	6	6	4	1	= 22.5
Music	3	2	7	2	0	= 14	3	2	8	4	0	= 17	3	2	9	4	2	= 20
Speech	3	2	12	11	0	= 28	4	2	16	13	0	= 35	6	3	20	14	0	= 43
TOTALS	9	6	25	19	1	= 60	10	7	32	21	1	= 71	14.5	11	35	22	3	= 85.5
Humanities																		
Comparative Lit.	1	0	0	0	0	= 1	1	0	0	1	0	= 2	1	0	1	2	0	= 4
English	16	16	27	6	9	= 74	17	20	33.6	7	7.4	= 85	18.5	20	37.6	9.9	3.5	= 89.5
Germanic Lang.	6	0	6	8	0	= 20	5	5	4	10	0	= 24	4	6	7	6	0	= 23
History	8	5	19	10	0.5	= 42.5	8	7	20	10	0.8	= 45.8	8	11	21	9	0.8	= 49.8
Philosophy	2	3	4	1	0	= 10	2	5	5	0	0	= 12	4	4	5	0	1	= 14
Romance Lang.	8	12	9	15	0	= 44	7	9	13	20	0	= 49	10	11	15	18	1	= 55
Slavic Lang.	1	1	1	1	2	= 6	1	1	1	1	2	= 6	0	3	1	1	1	= 6
TOTALS	42	37	66	41	11.5	=197.5	41	47	76.6	49	10.2	=223.8	45.5	55	87.6	45.9	7.3	=241.3
Social Sciences																		
Economics	5	1	4	7	0	= 17	6	4	7	6	0	= 23	7	3	12	1	0	= 23
Government*	8	5	10	3	0	= 26	10	6	11	4	0	= 31	11	6	13	2	1	= 33
Linguistics	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1	0	0	= 2
Psychology	7	2	14	0	0	= 23	6	3	15	0	0	= 24	8.7	7	17.8	0	0	= 33.5
Sociology-Anthro.	6	2	11	1	0	= 20	8	6	10	2	0	= 26	6	10	11	1	0	= 28
TOTALS	26	10	39	11	0	= 86	30	19	43	12	0	=104	32.7	27	54.8	4	1	=119.5

TABLE 3: PROFESSIONAL PERSONNEL ACTIONS

(See text - Page 11)

	1966-67	1967-68	1968-69
Promotions	31	42	45[1]
Tenure Appointments	23	20	36
Resignations and Terminations	45	56	50
Retirements	0	1	2
Deceased	0	1	0
Merit Increases	373	452	519[2]
Sabbatical Leaves taken during the academic year	14	21	24[3]
Leaves of Absence without pay taken during the academic year	15	19	27[4]

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FOOTNOTES

[1] 36 effective February 1, 1969; 9 effective September 1, 1969

[2] 507 effective February 2, 1969; 12 effective September 1, 1969

[3] 15 full year; 4 first semester; 5 second semester

[4] 16 full year; 5 first semester; 6 second semester

TABLE 4: SALARY RANGES OF ARTS AND SCIENCES FACULTY BY RANK AND YEAR (1962-1969)

(See text - Pages 11-12)

Note: Computations made in the underlined year.

Professors	Maximum	Median	Minimum
1962-63	14,144	11,655	9,256
1963-64	18,111	13,858	12,246
1964-65	19,713	14,900	13,098
1965-66	21,000	15,288	11,484 (12,477)
1966-67	24,000	17,000	12,200 (14,200)
1967-68	26,000	18,000	14,500 (15,000)
1968-69	30,000	19,000	15,500 (15,500)

Associate Professors	Maximum	Median	Minimum
1962-63	9,776	9,256	7,748
1963-64	12,719	10,826	9,739
1964-65	13,858	11,484	9,939
1965-66	15,574	11,819	10,168
1966-67	19,600	13,450	11,000 (11,500)
1967-68	20,500	14,000	10,900 (12,000)
1968-69	21,000	14,700	12,200 (12,300)

Assistant Professors	Maximum	Median	Minimum
1962-63	8,060	7,527	6,435
1963-64	10,353	8,795	7,880
1964-65	11,819	9,253	7,467
1965-66	12,719	9,596	7,508
1966-67	13,000	10,800	7,800 (8,600)
1967-68	13,500	11,000	8,100 (9,100)
1968-69	14,500	11,400	8,100 (9,200)

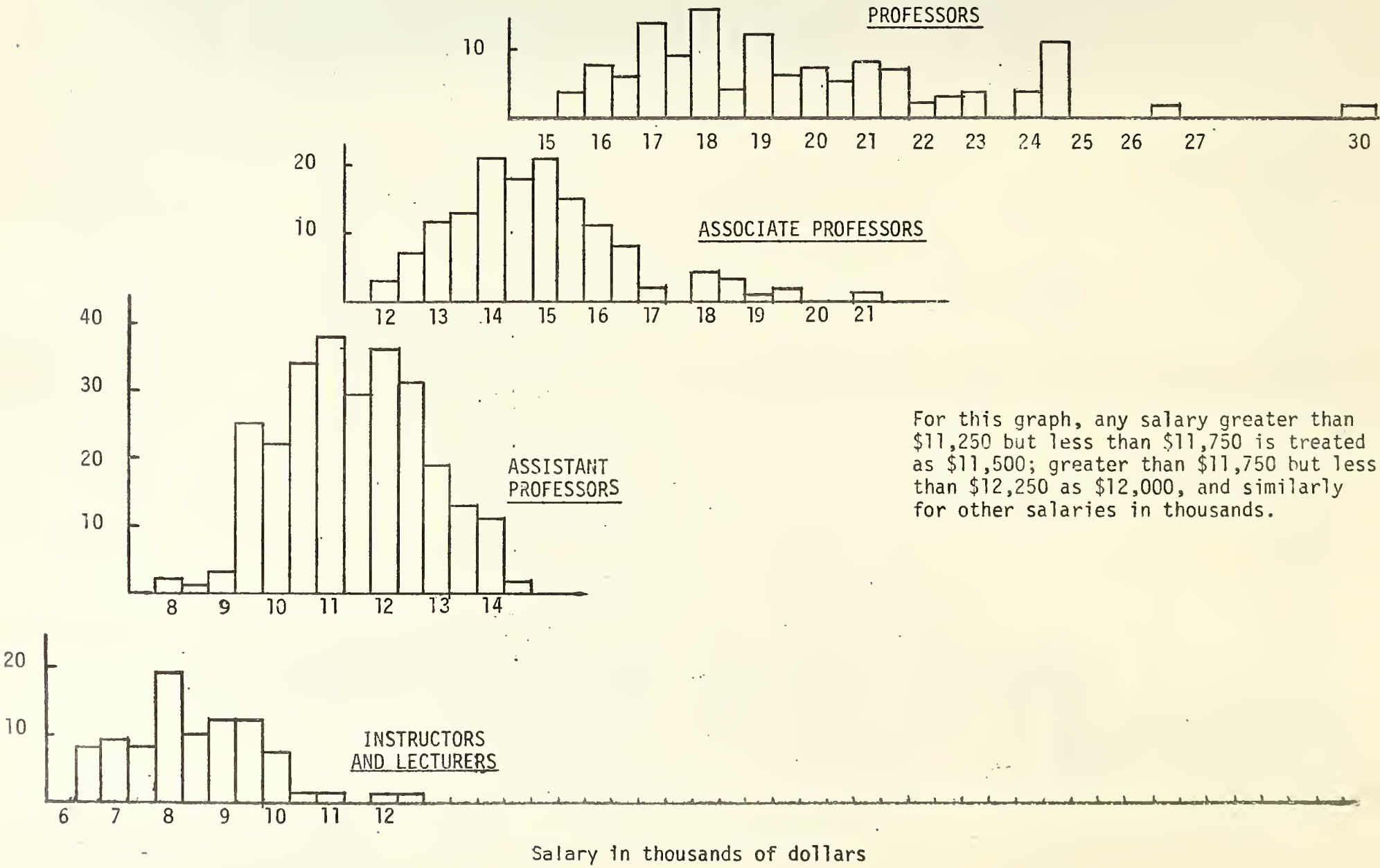
Instructors	Maximum	Median	Minimum
1962-63	6,981	6,006	5,070
1963-64	8,567	7,165	5,820
1964-65	8,795	7,165	5,964
1965-66	9,053	7,165	5,964
1966-67	10,000	8,000	6,400 (6,500)
1967-68	11,500	8,200	6,400 (6,400)
1968-69	11,900	8,500	6,400 (6,400)

Lecturers	Maximum	Median	Minimum
1966-67	10,900	9,300	6,500 (6,500)
1967-68	14,400	10,400	6,400 (6,400)
1968-69	12,500	11,200	6,400 (6,400)

Figures in parentheses represent minimum salaries if the bottom 2% are eliminated. This esclusion is customary in analyses by the A.A.U.P.

TABLE 5: FACULTY SALARIES (February, 1969) COLLEGE OF ARTS & SCIENCES - DISTRIBUTION BY RANKS

(See text - Pages 11 and 12)



For this graph, any salary greater than $11,250 but less than $11,750 is treated as $11,500; greater than $11,750 but less than $12,250 as $12,000, and similarly for other salaries in thousands.

(See text - Pages 9 and 10)

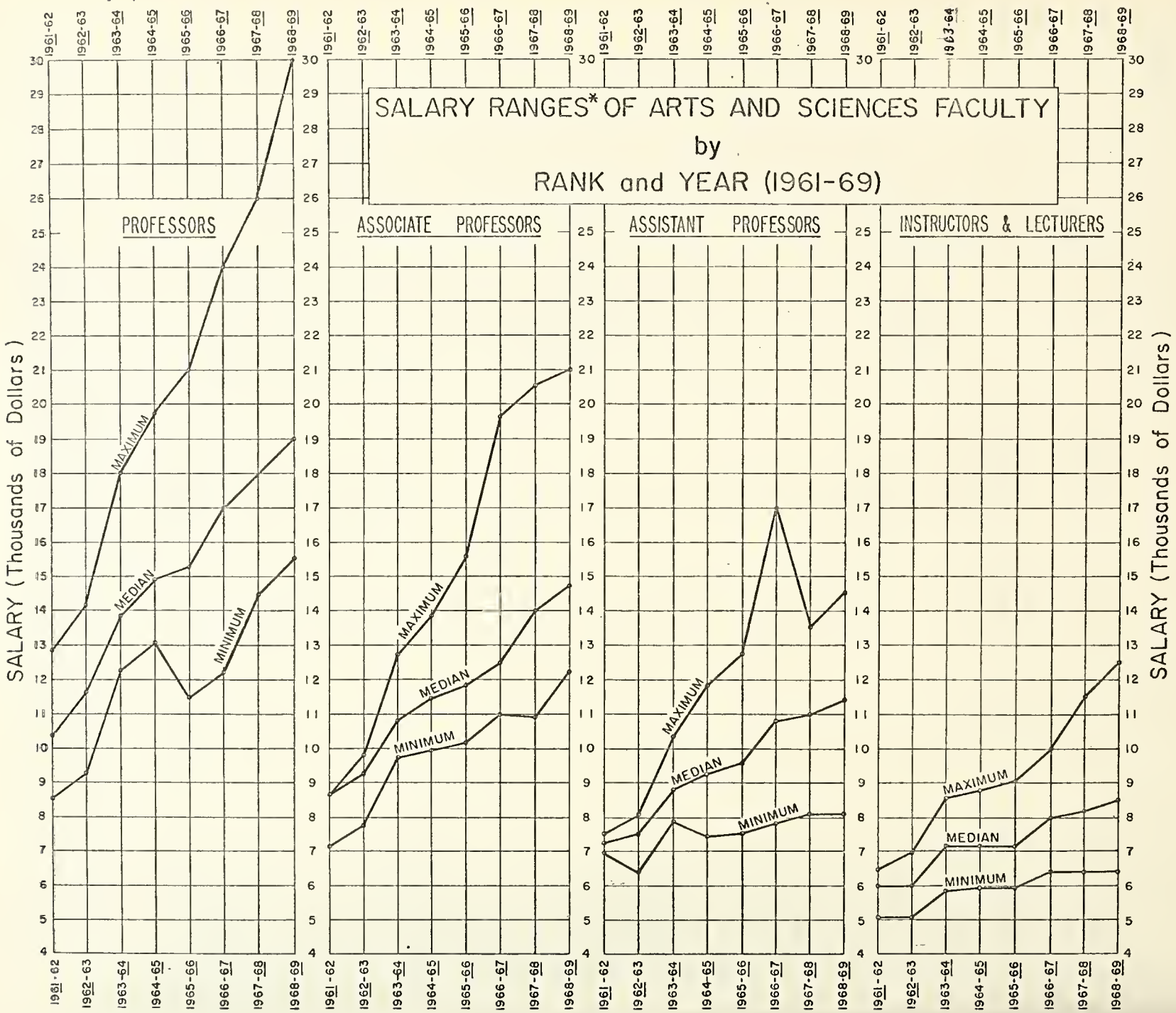


TABLE 7 : NON-PROFESSIONAL POSITIONS BY RANK

(Fall of Each Indicated Year)

(See text - Page 12)

Secretarial	1965	1966	1967	1968
(03) Junior Clerk, Typist	6	6	6	9
(04) Junior Clerk, Steno	31	36	36	37
(06) Senior Clerk, Typist	11[1]	11[1]	13	14
(07) Senior Clerk, Steno	18	21	21	21
(09) Principal Clerk	4	6	7	9
TOTALS	70	80	83	90
Non-Secretarial (Technical)				
(02) Laboratory Helper	1	1	1	1
(04) Laboratory Assistant	8	9	9	9
(05) Animal Room Attendant	1	1	1	1
(06) Mechanical Handyman	1	1	1	1
(07) Herbarium Curator	1	1	0	0
(08) Laboratory Technician	1	1	1	0
(08) Technical Assistant	12	16	17	17
(09) Carpenter	1	1	1	1
(09) Machinist	2	2	2	2
(10) Electronic Technician	2	3	4	4
(10) Storekeeper)	2	3	3	3
(11) Machinist Foreman	1	1	1	1
(12) Principal Storekeeper	1	1	1	1
(12) Technical Specialist	0	1	3	3
TOTALS	34	42	45	44

* * * * *

FOOTNOTES

[1] The eleven senior clerk typists (grade 06) indicated for 1965 and 1966 include one position assigned to the Provost's Office and allocated to the Four-College Astronomy Program. This position has been transferred to the College of Arts and Sciences.

1968-69

Division	Department	FP	SP	FP/SP Ratio	Highest Ranking Position[1]
Fine and Performing Arts	Art	22.5	2.0	11.3	SCS
	Music	20.0	2.0	10.0	PC
	Speech	43.0	5.0	8.6	SCS
Total		85.5	9.0	9.5	
Humanities	Comparative Literature	4	0.5	8.0	JCS
	English	89.5	10.0	8.9	PC
	Germanic Languages	23.0	3.0	7.6	SCT
	History	49.8	5.0	9.9	SCS
	Philosophy	14.0	1.5	9.3	SCT
	Romance Languages	55.0	5.5	10.0	PC
	Slavic Languages	6.0	1.0	6.0	JCS
Total		241.3	26.5	8.8	
Social Sciences	Economics	23.0	3.0	7.7	PC
	Government	33.0	6.0	5.5	SCS
	Linguistics	2.0	0.0	0.0	---
	Psychology	33.5	5.0	6.7	SCS
	Sociology-Anthropology	28.0	4.0	9.3	SCS
Total		119.5	18.0	6.6	
Biological Sciences	Botany	18.7	3.0	6.2	SCS
	Microbiology	9.0	1.5	6.0	SCS
	Zoology	27.0	5.0	5.4	PC
Total		54.7	9.5	5.8	
Physical Sciences	Biochemistry	6.5	1.0	6.5	JCS
	Chemistry	35.0	6.5	5.4	PC
	Geology-Geography	17.0	2.0	8.5	SCS
	Physics-Astronomy	40.0	6.0	6.7	PC
Total		98.5	15.5	6.6	
Mathematics & Statistics	Mathematics & Statistics	68.5	5.0	13.7	PC
TOTAL		668.0	83.5	8.0	
Dean's Office		5.5	6.5[2]	---	---
GRAND TOTAL		673.5	90.0	7.5	

FOOTNOTES

[1] Abbreviations: JCS=Junior Clerk Steno (04); SCT=Senior Clerk Typist (06); SCS=Senior Clerk Steno (07); PC=Principal Clerk (09).

[2] The secretary to the Pre-Medical Advisory Committee is included among those assigned to the Dean's Office.

TABLE 9: RATIOS OF FACULTY POSITIONS (FP) TO SECRETARIAL POSITIONS (SP) AND TO TECHNICAL POSITIONS (TP)[1]
[Fall of Each Indicated Year]

(See text - Page 12)

	1965	1966	1967	1968
FP	451.5	532.5	606.0	668.0
SP	63.5	74.0	77.0	83.5
FP/SP Ratio	7.1	7.2	7.9	8.0
FP	451.5	532.5	606.0	668.0
TP	34.0	42.0	45.0	44.0
FP/TP Ratio	13.3	12.7	13.5	15.2

* * * * *

FOOTNOTES

[1] Computations based on total faculty positions (FTE) and do not include personnel in the Dean's Office.

TABLE 10: COMPARATIVE ENROLLMENTS (HEAD COUNT) AT U. OF MASSACHUSETTS, AMHERST, BY CLASSES AND BY COLLEGES (SEPTEMBER OF EACH YEAR)

		1955	1957	1959	1961	1963	1965	1966	1967	1968
Four-Year Undergraduates										
By Class:	Freshmen	1088	1266	1838	1918	2286	2622	2954	3040	3188
	Sophomores	899	1016	1149	1463	1727	2516	2904	3061	3266
	Juniors	897	879	994	1323	1648	2225	2602	2964	3235
	Seniors	744	830	874	980	1221	1572	1971	2509	2949
By School:	ARTS & SCIENCES TOTAL	1721	1759	2472	3116	3976	5060	5776	6335	6858
	Other Schools Total	1907	2232	2383	2568	2906	3875	4655	5239	5780
	(Agriculture)	324	268	274	341	345	487	620	705	762
	(Business Admin.)	506	501	550	503	602	831	1043	1244	1396
	(Education)	*	231	331	426	485	695	840	862	972
	(Engineering)	792	967	849	836	847	894	939	969	1018
	(Home Economics)	183	132	130	114	178	268	369	458	501
	(Nursing)	37	56	96	102	145	203	255	287	313
	(Physical Education)	65	77	153	246	242	367	467	589	692
	(Public Health)	*	*	*	*	62	109	122	125	126
	(No Major)	--	--	--	--	21	--	--	--	--
FOUR-YEAR UNDERGRADUATE TOTAL		3628	3991	4855	5684	6882	8935	10431	11574	12638
STOCKBRIDGE TOTAL		338	331	395	394	454	516	544	583	598
Graduate:	ARTS & SCIENCES TOTAL					632	1131	1325	1461	1527
	Other Schools Total					671	1109	1119	1374	1580
GRADUATE TOTAL		337	430	780	845	1303	2240	2514	2835	3107
SPECIAL AND/OR NO CLASSIFICATION TOTAL		38	39	101	96	172	168	190	210	209
UNIVERSITY TOTAL		4341	4791	6131	7018	8811	11859	13679	15202	16552

* The Schools of Education and Public Health were included in the College of Arts and Sciences until 1957 and 1963, respectively.

(See text - Pages 13 and 14)

TABLE 11: COMPARATIVE ENROLLMENTS IN PERCENTAGES AT UNIVERSITY OF MASSACHUSETTS, AMHERST, BY CLASSES AND BY COLLEGE (SEPTEMBER OF EACH YEAR)

(See text - Pages 13 and 14)

	1955	1957	1959	1961	1963	1965	1966	1967	1968
University Total - 100% equals	4,341	4,791	6,131	7,018	8,811	11,859	13,679	15,202	16,552
By Class:									
Freshman	25.1	26.5	30.0	27.0	25.9	22.2	21.6	20.0	19.3
Sophomores	20.7	21.1	18.7	20.8	19.6	21.2	21.2	20.1	19.7
Juniors	20.7	18.4	16.2	18.9	18.7	18.7	19.0	19.5	19.5
Seniors	17.1	17.4	14.3	14.0	13.9	13.3	14.4	16.5	17.8
FOUR-YEAR UNDERGRADUATE TOTAL	83.6	83.4	79.2	81.0	78.1	75.4	76.2	76.1	76.3
STOCKBRIDGE TOTAL	7.8	6.8	6.5	5.6	5.15	4.3	4.0	3.8	3.6
Graduate:									
Arts and Sciences Total	-	-	-	-	48.5	50.5	52.7	51.5	49.1
Other Schools Total	-	-	-	-	51.5	49.5	47.3	48.5	50.9
GRADUATE TOTAL	7.8	9.0	12.7	12.0	14.8	18.9	18.4	18.7	18.8
SPECIAL AND/ R NON-CLASSIFIED TOTAL	.8	.8	1.6	1.4	1.95	1.4	1.4	1.4	1.3
Four-Year Undergraduate Total - 100% equals	3,628	3,991	4,855	5,684	6,882	8,935	10,431	11,574	12,638
By School:									
Arts and Sciences Total	47.4	44.1	50.9	54.8	57.8	56.6	55.3	54.7	54.3
Other Schools Total	52.6	55.9	49.1	45.2	42.2	43.4	44.7	45.3	45.7
(Agriculture)	8.9	6.7	5.6	6.0	5.0	5.5	5.9	6.1	6.0
(Business Administration)	14.0	12.6	11.3	8.9	8.7	9.3	10.1	10.7	11.0
(Education)	*	5.8	6.8	7.5	7.1	7.8	8.0	7.4	7.7
(Engineering)	21.9	24.2	17.5	14.7	12.3	10.0	9.0	8.4	8.0
(Home Economics)	5.0	3.3	2.7	2.0	2.6	3.0	3.5	4.0	4.0
(Nursing)	1.0	1.4	2.0	1.8	2.1	2.3	2.5	2.5	2.5
(Physical Education)	1.8	1.9	3.2	4.3	3.5	4.1	4.5	5.1	5.5
(Public Health)	*	*	*	*	.9	1.2	1.2	1.1	1.0
(No Major)	-	-	-	-	-	.2	-	-	-

*The Schools of Education and Public Health were included in the College of Arts and Sciences until 1957 and 1963, respectively.

(See text - Pages 13 and 14)

	SCrH[1]	SCoH[2]	No. of Courses[3]	#Secs[4]	SP,H[5]	M.A.[6]	Ph.D.[6]
Fine and Performing Arts:							
Art	4,497	6,654	26	66	22	20	-
Music	3,109	4,755	49	18	1	11	-
Speech	6,719	7,093	46	143	8	4	-
TOTALS	14,325	18,502	121	227	31	35	-
Humanities:							
Comparative Literature	1,143	873	10	14	-	-	-
English--Journalism	24,553	23,863	80	342	31	6	34
Germanic Languages	4,056	4,687	23	107	16	-	12
History	13,347	13,224	38	227	24	1	14
Philosophy	3,690	3,690	17	51	-	-	7
Romance Languages	10,425	10,333	59	228	-	1	10
Slavic Languages	705	798	11	21	3	-	-
TOTALS	57,919	57,468	238	990	74	8	77
Social Sciences:							
Asian Studies	54	81	2	2	1	-	-
Economics	5,568	5,559	23	74	3	1	14
Government	6,753	6,681	30	94	-	16	18
Linguistics	120	120	4	4	-	-	-
Psychology	13,651	14,304	35	155	22	26	42
Sociology	10,503	10,503	25	84	-	14	11
Anthropology	2,625	2,622	13	25	5	-	1
TOTALS	39,274	39,870	132	438	31	57	96
Biological Sciences:							
Botany	4,325	6,219	16	69	12	8	27
Microbiology	1,641	2,752	7	7	13	6	17
Zoology	8,967	13,272	21	184	17	2	23
TOTALS	14,933	22,243	44	260	42	16	67
Physical Sciences:							
Biochemistry	674	896	5	14	1	5	16
Chemistry	7,990	12,621	27	221	5	10	89
Geology	3,168	5,175	19	80	8	23	7
Geography	750	922	4	11	-	-	-
Physics	4,689	5,840	25	107	22	-	38
Astronomy	1,886	2,646	5	26	-	-	-
TOTALS	19,157	28,100	85	459	36	38	150
Mathematics and Statistics:							
Mathematics	16,301	16,358	63	206	4	-	12
Statistics	2,379	2,379	6	7	-	-	-
TOTALS	18,680	18,737	69	213	4	-	12
COLLEGE TOTALS, 1968	164,288	184,920	689	2,587	218	154	402
TOTALS, PREVIOUS YEAR	152,731	174,168	641	2,289	102	210	260

SCrH[1] = Student Credit Hours; SCoH[2] = Student Contact Hours; No. of Courses[3] = Number of courses taught exclusive of Honors, Special Problems and Thesis, all of which carry academic credit; #Secs[4] = Total number of sections; SP,H[5] = Number of students enrolled in Senior Honors, Special Problems or other individual insturction; M.A.[6] and Ph.D.[6] = Number of active thesis projects.

TABLE 13: FTE STUDENTS BY DEPARTMENT AND DIVISION

(Fall Semester)

	F.T.E. STUDENTS		
Fine and Performing Arts	1966	1967	1968
Art	260	290	320
Music	142	338	214
Speech	386	495	469
DIVISION TOTALS	788	1,123	1,003
Humanities			
Comparative Literature	---	15	82
English	1,559	1,659	1,752
Germanic Languages	296	299	290
History	875	1,112	952
Philosophy	136	198	264
Romance Languages	629	697	745
Slavic Languages	53	65	50
DIVISION TOTALS	3,548	4,045	4,135
Social Sciences			
Asian Studies	---	5	4
Economics	345	378	398
Government	453	445	482
Linguistics	---	---	10
Psychology	803	732	975
Sociology	528	615	750
Anthropology	96	149	187
DIVISION TOTALS	2,225	2,324	2,806
Biological Sciences			
Botany	257	255	308
Microbiology	101	95	117
Zoology	554	588	640
DIVISION TOTALS	912	938	1,065
Physical Sciences			
Biochemistry	59	41	48
Chemistry	598	613	570
Geology-Geography	220	250	280
Physics	283	298	341
Astronomy	68	135	137
DIVISION TOTALS	1,228	1,337	1,376
Mathematics & Statistics			
Mathematics	1,054	1,096	1,155
Statistics	122	167	170
DIVISION TOTALS	1,176	1,263	1,325
COLLEGE TOTALS	9,877	11,030	11,710

NOTE: FTE stud. = 15 undergraduate student credit hours or 8 graduate student credit hours. S/F is the ratio of the numbers in the two columns to the left. T.A. Equiv. is an arbitrarily chosen figure; $8,100 of teaching assistant funds equals one faculty position. F* is column 2 increased by column 4. S/F* is the Student Faculty ratio with teaching assistants included.

	FTE STUD.	FTE FAC.	S/F	TA EQUIV.	F*	S/F*
Fine and Performing Arts						
Art	320	22.5	14.2	3.3	25.8	12.4
Music	214	20.0	10.7	3.0	23.0	9.3
Speech	469	43.0	11.0	2.0	45.0	10.4
DIVISION	1003	85.5	11.7	8.3	93.8	10.7
Humanities						
Comparative Lit.	82	4.0	20.5	1.0	5.0	16.4
English	1752	89.5	19.6	17.7	107.2	16.3
German	290	23.0	12.6	6.0	29.0	10.0
History	952	49.8	19.1	7.7	57.5	16.6
Philosophy	264	14.0	18.8	2.7	16.7	15.8
Romance Languages	745	55.0	13.5	5.3	60.3	12.4
Slavic Languages	50	6.0	8.3	0	6.0	8.3
DIVISION	4125	241.3	17.1	40.4	281.7	14.6
Social Sciences						
Asian Studies	4	-	-	-	-	-
Economics	398	23.0	17.3	4.0	27.0	14.8
Government	482	30.0[1]	16.0	7.7	37.7	12.8
Linguistics	10	2.0	5.0	.3	2.3	4.3
Psychology	975	33.5	29.1	11.7	45.2	21.5
Sociology	750	19.0	39.4	8.3	27.3	27.5
Anthropology	187	9.0	20.8	1.7	10.7	17.3
DIVISION	2806	116.5	24.1	33.7	150.2	18.7
Biological Sciences						
Botany	308	18.7	16.5	4.3	23.0	13.4
Microbiology	117	9.0	13.0	3.0	12.0	9.8
Zoology	640	27.0	24.7	15.7	42.7	15.0
DIVISION	1065	54.7	19.4	23.0	77.7	13.7
Physical Sciences						
Biochemistry	48	6.5	7.4	2.0	8.5	5.7
Chemistry	570	35.0	16.3	15.0	50.0	11.4
Geology	280	17.0	16.5	6.0	23.0	12.2
Physics-Astronomy	488	40.0	11.8	14.0	54.0	8.7
DIVISION	1376	98.5	14.0	37.0	135.5	10.1
Mathematics-Statistics						
Mathematics	1155	64.5	17.9	13.0	77.5	14.9
Statistics	170	4.0	42.5	2.0	6.0	28.3
DIVISION	1325	68.5	19.3	15.0	83.5	15.9
COLLEGE	11710	665.0	17.6	157.4	822.4	14.3

[1] Adjusted for borrowed teachers

TABLE 15: STUDENT MAJORS (HEAD COUNT) BY DEPARTMENT AND DIVISION

(Fall Semester)

	Undergraduate			Graduate			Totals		
	1966	1967	1968	1966	1967	1968	1966	1967	1968
Fine and Performing Arts									
Bachelor of Fine Arts		34	76	0	0	0	0	34	76
Art	149	149	139	53	52	67	202	201	206
Music	37	54	29	14	23	18	51	77	47
Bachelor of Music	0	0	34	0	0	0	0	0	34
Speech	119	124	153	20	26	35	139	150	188
TOTALS	305	361	431	87	101	120	392	462	551
Humanities									
Comparative Literature	0	0	0	0	0	7	0	0	7
English	1101	1261	1140	218	217	212	1319	1478	1352
Germanic Languages	61	66	60	53	54	58	114	120	118
Slavic Languages	41	44	30	0	3	3	41	47	33
History	648	687	639	95	117	96	743	804	735
Philosophy	44	61	54	36	44	45	80	105	99
Romance Languages	337	341	267	61	76	96	398	417	363
TOTALS	2232	2460	2190	463	511	517	2695	2971	2707
Social Sciences									
Economics	168	155	160	51	68	59	219	223	219
Government	571	548	501	78	87	89	649	635	590
Linguistics	0	0	0	0	0	1	0	0	1
Psychology	451	524	539	116	118	125	567	642	664
Sociology-Anthropology	339	422	472	69	65	90	408	487	562
TOTALS	1529	1649	1672	314	338	364	1843	1987	2036
Biological Sciences									
Pre-Professional	132	86	42	0	1	1	132	87	43
Botany	36	33	31	26	41	47	62	74	78
Microbiology	76	76	57	34	34	33	110	110	90
Zoology	508	513	444	62	64	73	570	577	517
TOTALS	752	708	574	122	140	154	874	848	728
Physical Sciences									
Biochemistry	0	4	24	0	24	26	0	28	50
Chemistry	225	212	185	136	132	121	361	344	306
Geology-Geography	71	98	94	26	30	38	97	128	132
Physics	78	85	77	72	88	93	150	173	170
Astronomy	27	31	27	0	1	7	27	32	34
TOTALS	401	430	407	234	275	285	635	705	692
Mathematics & Statistics									
Mathematics	557	536	466	91	96	87	648	632	553
Statistics	0	0	0	7	11	13	7	11	13
TOTALS	557	536	466	98	107	100	655	643	566
College of Arts & Sciences	0	191	1118	0	0	0	0	191	1118
COLLEGE TOTALS	5776	6335	6858	1318	1472	1540	7094	7807	8398

(See text - Page 15)

TABLE 16: UPPERCLASS MAJORS BY DEPARTMENT & DIVISION
(SPRING OF INDICATED YEAR)

MAJOR	HEAD COUNT				PERCENT OF MAJORS			
	1966	1967	1968	1969	1966	1967	1968	1969
Art	55	74	80	64	2.94	2.37	2.98	2.16
BFA	--	--	29	61	--	--	.74	2.04
Music	8	10	5	7	.43	.43	.19	.23
BMusic	--	--	5	16	--	--	.19	.54
English	366	447	541	616	19.56	19.32	20.08	20.61
Journalism	20	43	42	43	1.07	1.86	1.56	1.44
History	255	301	331	358	13.61	13.00	12.31	12.02
Philosophy	19	21	31	26	1.01	.91	1.15	.87
French	39	58	83	78	2.08	2.53	3.09	2.62
German	26	26	32	26	1.39	1.12	1.41	.87
Latin-Classics	1	2	2	6	.05	.09	.07	.20
Russian	12	17	30	22	.64	.73	.82	.50
Spanish	20	23	30	22	1.07	.99	1.11	.74
Speech	51	67	65	80	2.72	2.89	2.56	2.75
Anthropology	13	22	37	43	.69	.95	1.23	1.44
Economics	79	90	80	129	4.22	3.88	3.46	4.33
Government	267	280	284	269	14.26	12.09	10.57	9.02
Psychology	127	173	233	282	6.78	7.46	8.96	9.45
Sociology	91	143	190	250	4.85	6.17	7.60	8.48
Botany	14	19	14	17	.75	.82	.52	.57
Microbiology	14	20	28	30	.75	.86	1.04	1.01
Zoology	74	110	147	182	3.95	4.75	5.47	6.10
Pre-Med	90	102	70	35	4.80	4.40	2.60	1.17
Biochemistry	--	--	1	10	--	--	.04	.34
Chemistry	51	59	68	70	3.10	2.55	2.53	2.34
Geology	15	31	46	45	.85	1.34	1.71	1.51
Physics	24	19	21	26	1.28	.82	.78	.87
Astronomy	4	5	10	9	.21	.22	.37	.30
Mathematics	138	156	158	168	7.37	6.74	5.87	5.63
CASIAC	--	--	1	0	--	--	--	--
TOTALS	1873	2318	2686	2983				

(See text - Page 15)

TABLE 17: DEGREES AWARDED

	1966-67	1967-68	1968-69
B.A.	768	960	1074
B.S.	169	224	278
B.F.A.	0	5	25
TOTAL BACHELORS	937	1189	1377
M.A.	114	142	170
M.S.	169	163	97
M.F.A.	13	23	27
M.Music	0	10	1
TOTAL MASTERS	296	338	295
Ph.D.	50[1]	49[1]	94[1]
GRAND TOTAL	1283	1576	1766

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[1] The breakdown by major departments is shown below:

Department	1966-67	1967-68	1968-69
Biochemistry	0	2*	4
Biology	0	1*	0
Botany	1	1	3
Chemistry	11	17	26*
Economics	1	1	2
English	2	3	7
Geology	1	1	0
German	0	1*	2
Government	7	4	5
History	0	0	0
Mathematics	1	2	6
Microbiology	0	2	5
Psychology	17	10	19
Sociology-Anthropology	3	0	0
Zoology	6	4	6
Philosophy	0	0	2
Physics	0	0	3
TOTALS	50	49	94

* One Four-College cooperative Ph.D. is included in each total.

TABLE 18: BOOKS AND MONOGRAPHS, BY DEPARTMENT AND DIVISION (1968-1969)

(See text - Page 21)

FINE AND PERFORMING ARTS

Art

Cheney, Iris - Catalogue of Frick Collection: Contributions on Italian Painting. Princeton, New Jersey: Princeton University Press.

Hitchcock, Russell - Baroque Architecture in Southern Germany. London: 1968.

_____ - German Rococo: the Zimmermann Brothers. London: Allen Lane, The Penguin Press, 1969.

Roskill, Mark - Dolce's "Aretino" and Venetian Art Theory of the Cinguecento. New York: New York University Press, 1968. 351 pp.

Speech

Abramson, Doris E. - Negro Playwrights in the American Theatre, 1925-1959. New York: Columbia University Press, 1969.

Blankenship, Jane - A Sense of Style. Belmont, California: Dickinson, 1968.

Volbach, Walther R. - Adolphe Appia, Prophet of the Modern Theatre. Middletown Connecticut: Wesleyan University Press, 1968.

HUMANITIES

English

Aczel, Tamas - The Ice Age. London: Mayflower, 1968. 253 pp.

Emerson, Everett H. - English Puritanism from John Hooper to John Milton. Durham, North Carolina: Duke University Press, 1968. 350 pp.

Gibson, Walker - Persona: A Style Study for Readers and Writers. New York: Ramdom House, 1969. 90 pp.

Haven, Richard - Patterns of Consciousness. Amherst: University of Massachusetts Press, 1969. 240 pp.

Junkins, Donald - Walden, 100 Years After Thoreau. Boston: Yorick Books, 1969. 32 pp.

Kaplan, Sidney, ed. - Samuel Sewall, The Selling of Joseph, edited with an introduction. Gehenna Press, 1969. 64 pp. (to be reprinted by the University of Massachusetts Press)

TABLE 18, Continued

English, Continued

Kim, Richard E. - The Innocent. Boston: Houghton Mifflin & Co., 1968. 384 pp.

Kinney, Arthur - On Seven Shakespearean Tragedies. Sterling Junction: Scarab Press, 1968. 42 pp.

_____ - co-author with Lynn Z. Bloom and Kenneth W. Kuiper. Symposium. Boston: Houghton Mifflin & Co., 1969. 1129 pp.

Koehler, Stanley - The Fact of Fall: Poems. Amherst: University of Massachusetts Press, 1969. 58 pp.

Leheny, James - revision for P. Smithers' Life of Joseph Addison. Oxford University Press, 1968. XVI + 499 pp., 5 plates.

Lowance, Mason I. - author of introduction to Samuel Mather's Figures or Types of the Old Testament. (London, 1705) for Series in American Studies, 1969. 569 pp. + xxvi.

Meckier, Jerome - Aldous Huxley: Satire and Structure. London: Chatto & Windus, 1969. 222 pp.

Plumstead, A. William, ed. - The Journals and Miscellaneous Notebooks of Ralph Waldo Emerson. Harvard: Harrison Books, 1969.

Politella, Dario, ed. (photographs by Ruth Chin) - My Sunderland II: the Record of a Quarter Millennial Fete. Sunderland, Massachusetts: Town of Sunderland, October, 1968. 104 pp.

Sanders, Paul S., ed. - Twentieth Century Interpretations of the Book of Job. New York: Prentice-Hall, 1968. 118 pp.

Spivack, Bernard - Shakespeare and the Allegory of Evil (Columbia University Press) went into its third printing, 1968.

Germanic Languages

Denkler, Horst - Einakter und kleine Dramen des Expressionismus. (Anthologie mit Einduhrung und Anhang) Stuttgart: Reclam, 1968. 280 pp.

Ehrlich, E., co-ed. - German Essays and Expository Prose. New York: MacMillan Co., 1969. 429 pp.

Paulsen, W., ed. - Das Nachleben der Romantik in der Modernen Deutschen Litdratur. Heidelberg: Stiehm, 1969.

Schaefer, J., co-ed. - German Essays and Expository Prose. New York: MacMillan, 1969. 429 pp.

TABLE 18, Continued

History

Boyer, Paul S. - Purity in Print. New York: Scribners, 1968. 362 pp.

Dubofsky, Melvyn - When Workers Organize. Amherst: University of Massachusetts Press, 1968. 225 pp.

Hernon, Joseph M., Jr. - Celts, Catholics and Copperheads. Athens, Ohio: Ohio University Press, 1968. 150 pp.

Potash, Robert A. - The Army and Politics in Argentina, 1928-1945. Stanford, California: Stanford University Press, 1969. 314 pp.

Quint, Howard H., Albertson, Dean, and Cantor, Milton, eds. - Main Problems in American History, Revised edition. Homewood, Illinois: The Dorsey Press, 1968. 2 Vols., 491 pp., 453 pp.

Tager, Jack - The Intellectual as Urban Reformer: Brand Whitlock and the Progressive Movement. Cleveland: Case-Western Reserve University Press, 1968. 198 pp.

Wyman, David - Paper Walls. Amherst, Massachusetts: University of Massachusetts Press, 1968. 306 pp.

Romance Languages

Greenfield, Sumner, assoc. ed. with Anthony Zahareas, principal ed. - Ramon del Valle-Inclan: A Critical Appraisal of His Life and Work. New York: Las Americas, 1968. 805 pp.

Lawall, Sarah - Critics of Consciousness: The Existential Structures of Literature. Cambridge: Harvard University Press, 1968. xi, 281 pp.

Taylor, Robert (in collab.) - Bibliographie Internationale de l'Humanisme et de la Renaissance. III: Travaus parus en 1967. Geneve: Droz, 1968. 514 pp.

Bancroft, Robert L., and Taylor, Robert E. (in collab.) - 1967 MLA International Bibliography. Published in PMLA 83; No. 3, June, 1968. pp. 551-930. This work was later published in hard cover, together with a 66-page index, by the New York University Press, and in London, by the University of London Press.

SOCIAL SCIENCES

Economics

Holesovsky, V. - Czechoslovakia: I. Extension of Growth Indexes to 1965. II. Personal Consumption Index, 1937 and 1948-1965. New York: Columbia University Press, 1968. 40 pp.

TABLE 18, Continued

Economics, Continued

Seligman, B. - Glavnye Toky V. Sovremennoy Economike. Moscow: Pioneer Publishing House, 1968. 950 pp.

_____ - Aspects of Poverty.(ed.) New York: TY Crowell, 1968. 324 pp.

_____ - Economics of Dissent. Chicago: Quadrangle Books, 1968. 430 pp.

Treyz, G. - Computer Problem Kit for Economics. New York: MacMillan, 1969. 59 pp.

Government

Booth, David A. - Council-Manager Government in Small Cities. Washington, D.C.: I.C.M.A., 1968. 140 pp.

Fliess, Peter J. - International Relations in the Bipolar World. New York: Random House, 1968. 221 pp.

Goldman, Sheldon and Jahnige, Thomas P. (eds.) - The Federal Judicial System: Readings in Process and Behavior. New York: Holt, Rinehart and Winston, 1968. IX and 370 pp.

Havard, William C., Jr. - Peter H. Odegard's The American Republic (2nd ed.) with Hans Baerwald and William C. Havard, New York: Harper and Row, 1969. 899 pp.

Lewy, Guenter - The Catholic Church and Nazi Germany. London: Weidenfeld and Nicolson, 1968. XVI - 416 pp.

Oppenhein, Felix - Moral Principles in Political Philosophy. New York: Random House, 1968, XVI - 202 pp.

Wiarda, Howard J. - Dictatorship and Development: The Methods of Control in Trujillo's Dominican Republic. Gainseville: University of Florida Press, 1968. 224 pp.

_____ - The Dominican Republic: Nation in Transition. New York: Frederick A. Praeger, 1969. 249 pp. British edition published by Pall Mall Press, Longon, 1969.

Linguistics

Salus, Peter H. - On Language: Plato to von Humboldt. New York: Holt, Rinehart and Winston, 1968. VII and 201 pp.

_____ - (with Paul B. Taylor and W. H. Auden) Voluspa - The Song of the Sybil, Text translation and notes. Iowa City: Windhover Press, 35 pp. (unnumbered)

TABLE 18, Continued

Psychology

Biller, Henry B. - A Multiaspect Investigation of Masculine Development in Kindergarten Age Boys. Genetic psychology monographs, 1968. 76, 89-138 pp.

Sociology

Hollander, Paul, ed. - American and Soviet Society: A Reader in Comparative Sociology and Perception. Prentice Hall, April, 1969. 589 pp.

Anthropology

Halpern, Joel M., ed. - Bibliography of English Language Sources on Yugoslavia. Research Report No. 3, Department of Anthropology, Amherst, Massachusetts: University of Massachusetts Press, 1969. 134 pp.

_____ - and Barbara Halpern, ed. - Ritual and Social Structure in a Macedonian Village, by the late Joseph Bbrebski. Research Report No. 4, Department of Anthorpology, Amherst, Massachusetts: University of Massachusetts, May, 1969. 21 pp.

Proulx, Donald A. - Local Differences and Time Differences in Nasca Pottery. University of California Publications in Anthropology, Vol. 5, University of California Press, Berkeley, Los Angeles and London, 1968, xi + 180 pp., 2 maps, 2 tables, 20 figures and 31 plates.

_____ - An Archaeological Survey of the Nepena Valley, Peru. Department of Anthropology, University of Massachusetts, Research Reports No. 2, 1968, 189 pp., 20 plans, 20 figures, 21 plates.

Salzmann, Zdenek - Anthropology. New York: Harcourt, Brace and World, 1969. xii + 308 pp.

BIOLOGICAL SCIENCES

Botany

Schuster, R. - The Hepaticae and Anthocerotae of North America, Vol. II. New York: Columbia University Press, 1969. 1-1067 pp., 217 figures.

PHYSICAL SCIENCES

Biochemistry

Robinson, Treavor - The Biochemistry of Alkaloids. New York: Springer-Verlag, 1968.

TABLE 18, Continued

Chemistry

Brewster, R. Q., and McEwen, W. E. - Quimica Organica, Un Curso Breve, Translation into Spanish by Xorge A. Dominguez, Mexico 22, D. F.: Compania Editorial Continental, S. A., Calzada de Tlalpan Num. 4620, 1968. 468 pp.

Richason, George R. ed. - Chemistry 101-102 Workbook and Laboratory Manual. Amherst: Newal Printing, September, 1968. 200 pp.

Siggia, S. - Survey of Analytical Chemistry. New York: McGraw-Hill, 1968. 304 pp.

Geology

Hayes, M. O., ed. - Coastal Environments of Northeastern Massachusetts and New Hampshire, Field Trip Guidebook. University of Mass. Geology Department, Amherst, May, 1969. 462 pp., 240 figures.

Motts, W. S. and Saines, M. - The Occurrence and Characteristics of Ground-Water Contamination in Massachusetts. University of Mass. Water Resources Research Center, Publication No. 7, January, 1969, 70 pp., 10 figures.

TABLE 19: RESEARCH AND TRAINING GRANTS AND CONTRACTS (1968-69)

The information for this table was gathered from several sources: departmental reports, Graduate School, etc. The total value of each grant or contract was prorated to determine the value for the fiscal year.

	FACE VALUE FOR FY'69	# OF GRANTS	FY'69 PAYROLL FROM NON-STATE FUNDS
Fine and Performing Arts			
Art	$ 5,500	8	$ 5,637
Music	2,480	6	--
Speech	21,230	3	5,868
DIVISION TOTALS	$ 29,210	17	$ 11,505
Humanities			
Comparative Literature	$ 250	1	$ 192
English	26,425[1]	14	14,677
History	30,000	6	26,816
Germanic Languages	1,500	4	--
Slavic Languages	1,000	1	--
Romance Languages	1,640	5	6,920
Philosophy	500	1	485
DIVISION TOTALS	$ 61,065	32	$ 48,898
Social Sciences			
Economics	$ 25,000	5	$ 8,540
Government	92,785	18	28,734
Psychology	203,317	16	150,848
Sociology-Anthropology	250,300	14	37,875
DIVISION TOTALS	$ 571,402	53	$ 225,997
Biological Sciences			
Botany	$ 164,920	24	$ 70,262
Microbiology	176,000	12	124,572
Zoology	391,560	15	182,814
DIVISION TOTALS	$ 732,480	51	$ 377,648
Physical Sciences			
Biochemistry	$ 148,265	6	$ 79,268
Chemistry	512,187	46	228,444
Geology & Geography	71,780	8	32,650
Physics & Astronomy	785,410	60	432,294
DIVISION TOTALS	$1,517,642	120	$ 772,656
Mathematics and Statistics			
Mathematics & Statistics	$ 110,250	7	$ 52,499
DIVISION TOTALS	$ 110,250	7	$ 52,499
COLLEGE TOTALS	$3,022,299	227	$1,489,395

[1] Professor Copeland's $189,000 grant was rated at 20 years in obtaining this total.

(See text - Page 21)

TABLE 20: SELECTED PROFESSIONAL ACTIVITIES OF THE FACULTY

(See text - Page 22)

FINE ARTS

Art

Norton, Paul: Membership Committee, National Council for Education in the Ceramic Arts; Committee on Education in the Arts, Board of Higher Education, Massachusetts.

Perkins, Lyle: Membership Committee, National Council for Education in the Ceramic Arts.

Poritz, Sidney: Member, Secondary Art Advisory Committee, Massachusetts Comm. of Education.

Speech

Abramson, Doris: Drama Editor, the Massachusetts Review.

Bevilacqua, Vincent: Member, Legislative Assembly and Secretary, Rhetoric and Public Address Interest Group, Speech Assoc. of America.

Blankenship, June: Editorial consultant for Prentice-Hall; Secretary, New England Speech Association; member, Legislative Assembly, and Chairman, Phonetics, Linguistics and Voice Science Interest Group, Speech Assoc. of America.

Cohen, Herman: Member, Legislative Assembly and Publications Committee; Vice Chairman, Rhetoric and Public Address Interest Group and Chairman, Nominating Committee, Speech Assoc. of America.

Gough, Kenneth: Treasurer, New England Speech Association.

Hanifan, Catherine: Editor, Massachusetts Speech and Hearing Association Newsletter.

Harper, Richard D.: Membership Committee, Association for Professional Broadcasting Education.

Hegarty, Inez E.: Committee on Educational Components in Nursing and Rest Homes, American Public Health Association; Consultant, All India Institute of Medical Sciences and the Massachusetts State Department of Public Health.

Hulsen, Albert: Radio Advisory Council, Corporation for Public Broadcasting; Program Advisory Committee, National Association of Educational Broadcasters.

Malton, Ronald J.: Chairman, Membership Committee and member, National Debate Tournament Committee, American Forensic Association; Executive Council, Eastern Forensic Association; Member, Legislative Assembly, Speech Assoc. of America.

TABLE 20, Continued

Speech, Continued

Reid, Ronald F.: Vice President (and elected President), Speech Association of the Eastern States; Executive Council, New England Speech Association; Member, Legislative Assembly and Chairman, Educational Policies Board, Speech Assoc. of America.

Savereid, Jay: Executive Council, New England Speech Association.

Tokay, F. Harry: Co-editor, Massachusetts Speech and Hearing Association Newsletter; Consultant to the Children's Hospital of Utica, New York and to the Willie Ross School for the Deaf (Springfield, Massachusetts).

Wallace, Karl R.: Editorial consultant, Dodd, Mead; Member, Finance Committee, Speech Assoc. of America.

Young, M. James: Vice Chairman, Theatre and Religion Project Group, American Educational Theatre Association; Consultant, Riverview Housing Project in Springfield, Massachusetts.

HUMANITIES

Comparative Literature

Fleischmann, Wolfgang B. (Editor):
Hunt, J. William (Associate Editor):
Lawall, Sally N. (Associate Editor):
American Comparative Literature Association Newsletter, the organ for the national American Comparative Literature Association.

English

Brogan, Howard: Graduate Consultant in English, Indiana University; Member, Interim Executive Committee, National Association of Professors.

Chametzky, Jules: Consultant, National Endowment for the Humanities; Board of Directors and Secretary, Coordinating Council of Literary Magazines.

Clark, David: General Editor, Series of Yeats MSS for University of Mass. Press; Contributing Editor.

Duckert, Audrey: Consultant, Oxford English Dictionary, Supplement II; Maine English Language Curriculum Group, Bowdoin College, University Chicago Press and University of Minnesota Press; 3rd Vice President, American Name Society; Member, Executive Council, American Dialect Society; Assistant Editor, Linguistic Atlas of United States and Canada.

TABLE 20, Continued

English, Continued

Emerson, Everett: Chairman, MLA Early American Lit. Group; Garrett Press editorial project in American Literature; Editor, Early American Literature.

Gibson, Walker: Member, Executive Committee Conference, College Composition and Communication.

Haven, Richard: Editorial Consultant, Studies in Romanticism, University of Massachusetts Press.

Junkins, Donald: Poetry Editor, Massachusetts Review.

Kaplan, Sidney: Editor, The Gehenna Press.

Koehler, G. Stanley: Director, Chautaugua Writers' Workshop; Co-editor of poetry, Massachusetts Review.

Lowance, Mason: Consultant, Educational Associates, Inc., Washington, D.C.; Managing Editor, Early American Literature.

Mitchell, John: Consultant, Union Carbide Corporation.

Politella, Dario: President, NCCPA; Vice President, Eastern Region, A.P.G. National Journalism Hononary.

Raymond, Meredith: Corresponding Secretary, WMEC.

Germanic Languages

Paulsen, Wolfgang: Editorial Board, Germanic Review (Columbia).

History

Albertson, Dean: Member, Audio-Visual Committee, National Council of the Social Studies.

Cantor, Milton: Editor, Labor History.

DePhillis, Mario: Editorial Board, Journal of Social History; Consultant, Hancock Shaker Village.

Hernon, Joseph: Treasurer, American Committee for Irish Studies.

Ilardi, Vincent: Contributing Editor, Bibliotheque d'Humanisme et Renaissance.

Oates, Stephen: Contribution Editor, American West.

Potash, Robert A.: Member, Steering Committee, National Consortium for Latin American Studies; Chairman, Membership Committee, Latin American Studies Association; Member, Latin American Advisory Committee to the Committee on International Exchange of Persons; Consultant, Department of State; Member, Executive Committee,

TABLE 20, Continued

History, Continued

Quint, Howard: Judge, Pelzer Prize Committee of the Organization of American Historians.

Van Steenberg, John: Trustee, Forty Acres.

Philosophy

Ackermann, Robert: Address to the Aristotelian Society, plus ten invited papers at other universities.

Aune, Bruce: Participant, Agent, Action and Reason Colloquia, University of Western Ontario, and other national conferences.

Ehrlich, Leonard: Participant, charter meeting at international Society for Metaphysics in Vienna, Austria, and presented paper at 14th International Congress of Philosophy in Vienna.

Romance Languages

Bancroft, Robert: Bibliographer for PMLA.

Taylor, R. E.: Columbia Seminar Associate and bibliographer for PMLA.

Rothberg, Irving: Editor in Chief, Hispania.

Weiner, Seymour: Editor in Chief, the Cabeen critical bibliograph.

Slavic Languages

Levin, Maurice I.: Chairman, Conference of Summer Programs in the USSR and Eastern Europe, Association for the Advancement of Teachers of Slavic and East European Languages.

SOCIAL SCIENCES

Economics

Barkin, Solomon: Board of Trustees, National Planning Association.

Eagly, Robert: Advisory Board, History of Political Economy.

Howard, Marshall: Editorial Board, Journal of Marketing; Chairman, Law/Legislation Committee, American Marketing Association.

Smith, Vernon L.: Panelist, Graduate Fellowships, National Science Foundation.

TABLE 20, Continued

Government

Beth, Loren P.: Editor of POLITY, the Journal of the Northeastern Political Science Associations.

Braunthal, Gerard: Panel discussant, conference on "The West German Polity 1969", in Cologne, Germany, June 27-28, 1969.

Howard, Irving: Working in Boston with Senate President Donoghue (House Leadership); member, Massachusetts "Little Hoover Commission" and Long-Range Planning Committee.

Linguistics

Freeman, Donald C.: Consultant on linguistics to Scott, Foresman & Co.

Salus, Peter H.: Consultant on linguistics to Holt, Rinehart and Winston; Member, editorial board, Massachusetts Review.

Psychology

Appley, Dee G.: Research Committee, American Group Psychotherapy Association; Executive Committee, University Counseling Association of Canada; Consultant and speaker, Quebec Guidance Counselors' Association and Hampshire County Council of Congregational Churches.

Appley, Mortimer H.: Chairman, Education and Training Board, American Psychological Association; Member, Board of Directors, Canadian Psychological Association; Consultant, Science Council of Canada, National Science Foundation, Veterans' Administration, SUNY College at Oswego, N. Y.; Editorial Consultant, Psychological Review and Physiology and Behavior.

Clifton, Charles Jr.: Consulting Editor, Journal of Experimental Child Psychology.

Clifton, Rachel K.: Consulting Editor, Psychophysiology and Society for Research in Child Development Monograph; Member, Nominations Committee, Division 7, American Psychology Association.

Helson, Harry: Speaker, Shepard Memorial Symposium, University of Michigan.

Jarmon, Harold: Psychology Consultant, Greenfield Supplementary Education Project, Hampden County Learning Disabilities Project, Children's Aid and Family Service (Northampton), and Amherst Regional High School; Participant, Office of Education meetings on special education training programs, Washington D.C.

Kates, Solis: Research Associate, The National Institute for Research and Behavorial Sciences, Jerusalem, Isreal, February and March, 1969.

TABLE 20, Continued

Psychology, Continued

Levinger, George: Associate Editor, Journal of Marriage and the Family; Advisory Editor, Family Process; consultant, Journal of Personality and Social Psychology; reviewer, National Science Foundation; consultant, U. S. Veterans' Administration.

Myers, Jerome: Editorial panel, Psychology Bulletin; reviewer, J. Math. Psychology, J. Experimental Psychology, Psychology Review.

Sociology

Driver, Edwin D.: Editorial consultant, Demography; consultant in Social Science and Population, 1968, to Department of State, NIH, NSF, and the Ford Foundation

Gordon, Milton M.: Member, Executive Committee, Eastern Sociological Society.

Korson, J. Henry: Senior Scientist representative, under National Science Foundation Program and American Sociological Association; sponsorship, to Keene State College, December, 1968.

Lee, Everett S.: President, Population Association of America; member, National Committee on Vital and Health Statistics; Chairman, Subcommittee on Vital Statistics System Revision, National Center for Health Statistics; member, Committee on Social Statistics, Eastern Sociological Association.

Page, Charles H.: Member, International Committee on Sociology of Sport (Subcommittee of UNESCO and of International Sociological Association), Fall, 1968.

Piedmont, Eugene B.: Member, Steering Committee for Task Force on Health Manpower, American College Health Association; member, Community Mental Health and Mental Retardation Board of the Franklin-Hampshire Area; member, Regional Selection Committee, Woodrow Wilson National Fellowship Foundation.

Wilkinson, Thomas O.: Regional Chairman (Region I: New England and Eastern Canada), Woodrow Wilson National Fellowship Foundation.

Wilson, William J.: Member, Committee for Nominations, Eastern Sociological Society.

Anthropology

Halpern, Joel M.: Southeast Asia Development Advisory Group of the Asia Society; Co-chairman, Mekong Committee.

TABLE 20, Continued

BIOLOGICAL SCIENCES

Botany

Schuster, R. M.: Panel member, 12-day symposium of Systematics, Smithsonian Institution; Expedition to the Antartic Peninsula, December, 1968 - February, 1969.

Microbiology

Cox, C. D.: Editorial Board, Journal of Bacteriology; member, Enviromental Biology Advisory Panel for NASA and the National Research Council Committee

Thorne, C. B.: Editorial Board, Journal of Bacteriology.

Zoology

Anderson, Everett: Lecturer in Embryology, Marine Biological Laboratory Woods Hole, Massachusetts; Director, New England Society of Electron Microscopy; Associate Editor, Anatomical Record; and reviewer for five other journals.

Fairbairn, Donald: Visiting Professor at University of Sydney; Lectures in England, Rome, Cairo, Jerusalem, Singapore, Canberra, and Perth during his sabbatical leave. Reviewer for several journals.

Honigberg, Bronislaw M.: Executive Committee, Society of Protozoology; Associate Editor, Transactions of American Microscopical Society; Trustee, American Type Culture Commission; Opening Address and Presiding Officer of Round Table Discussion at International Symposium on Trichomoniasis, Poland, October, 1968.

Kaulenas, Mindaugas S.: Consultant, NIH Special Facilities Branch.

Klingener, David J.: Chairman, Committee on Anatomy and Physiology, American Society of Mammalogists.

Mange, Arthur P.: Invited lecturer, International Conference on Computer Applications in Genetics, University of Hawaii.

Nutting, William B.: Member, Governor's Council on Conservation.

Rollason, H. Duncan: Invited participant, Symposium on Renal Compensatory Hypertrophy, University of Texas.

TABLE 20, Continued

PHYSICAL SCIENCES

Chemistry

Brandts, John F.: Visiting Barton Lecturer in Chemistry, University of Oklahoma; Consultant, Oak Ridge National Laboratory; elected an overseas member, Royal Society of Medicine.

Curran, David J.: NSF Panel Member, Undergraduate Research Participation Program.

MacKnight, William J.: Membership committees - Division of Polymer Chemistry, American Chemical Society and Division of High Polymer Physics, American Physical Society; Co-Chairman, Polymer Section, First Northeast Regional, ACS Meeting, November, 1968.

McEwen, William E.: Member, Board of Editors, Journal of Organic Chemistry; Chairman, Advisory Panel for Chemistry, National Science Foundation; member, Committee on Nominations and Awards, American Chemical Society; Councillor, Connecticut Valley Section, American Chemical Society; Consulting Editor, Topics in Phosphorus Chemistry.

Rausch, Marvin D.: Chairman, Organometallic Subdivision, Division of Inorganic Chemistry, American Chemical Society.

Rowell, Robert L.: Connecticut Valley Section of the American Chemical Society; Membership Committee, Member-at-large.

Siggia, Sidney: Chairman, Division of Analytical Chemistry, American Chemical Society; titular member of IUPAC Committee on Analytical Chemistry; Advisory Panel, National Bureau of Standards.

Stein, Richard S.: Advisory Board, Journal of Polymer Science; Advisory Committee, Princeton Materials Program; Gordon Cenference Selection and Scheduling Committee.

Geology

Bromery, Randolph: Project leader and panel member, Earth Science Curriculum Conference sponsored by the American Geological Institute; Consultant, Senior Scientist for the State of Connecticut, U. S. Department of State and The Republic of Liberia, U. S. Geological Survey.

Hartshorn, Joseph: Chairman, Constitutional Committee of the American Society of Quaternary Research; Consultant, U. S. and Connecticut Geological Surveys.

Hayes, Miles: Member of Research Council, Society of Economic Paleontologists and Mineralogists; Co-Chairman, Coastal Sedimentation Research Group.

TABLE 20, Continued

Physics and Astronomy

Cook, Leroy F.: Co-Chairman of 7th Annual Eastern Theoretical Physics Conference at the University of Massachusetts.

Dent, William A.: Member, Scientific Users' Committee, National Radio Astronomy Observatory.

Gluckstern, Robert: Visiting Professor, University of Tokyo, May-June, 1969; Consultant, National Accelerator Laboratory, Brookhaven National Laboratory and Los Alamos Scientific Laboratory on the Theory of High Energy Accelerator; Co-Chairman, 7th Annual Eastern Theoretical Physics Conference at the University of Massachusetts.

Huguenin, G. Richard: Member, Solar Physics Subcommittee, Space Science and Applications Steering Committee, National Aeronautics and Space Administration; member, Subcommittee on Radio Astronomy, Committee on Radio Frequency Requirements for Scientific Research, National Academy of Sciences - National Research Council.

Irvine, William M.: Vice-Chairman, Northeast Radio Observatory Corporation.

Jones, P. R.: Consultant, NSF on Undergraduate Research Participation Grant Evaluations.

Kofler, Richard: Consultant, Argonne National Laboratory.

Mathematics and Statistics

Stone, Marshall H.: Consultant, the Secondary School Mathematics Curriculum Improvement Project, Teachers' College, Columbia University, the Project for Computer-Based Instruction in School Mathematics, Stanford University and to NSF-AID (New Delhi) and Government of India, December 8, 1968-February 11, 1969.

TABLE 21: NEW FULL-TIME FACULTY RECRUITED (AS OF 6/12/69) ACCORDING TO RANK

Rank	Type of Position Occupied		
	New	Old	Total
Professor	14	12	26[1]
Associate Professor	13	5	18
Assistant Professor	37[2]	15[2]	52[3]
Instructor	1	12	13
Lecturer	1	0	1
Totals	66	44	110[4]

FOOTNOTES

1 Five appointments are for one semester.

2 Two new appointments are at the rank of "Resident Artist"; they utilize one "new" and one "old" position of Assistant Professor.

3 Included in this total are 19 Assistant Professors who have been appointed to this rank subject to receipt of the Ph.D. prior to September 1, 1969. One appointment is for one semester.

4 In addition to the 110 full-time faculty recruited, one new position and one old position were filled at the rank of Staff Assistant, and eleven old positions were filled by part-time appointments, making a total FTE recruitment of 123.

(See text - Page 35)

TABLE 22: NEW FULL-TIME FACULTY RECRUITED (AS OF 7/01/69) FOR SEPTEMBER 1969 BY DIVISION, DEPARTMENT, AND RANK

The number of positions of Professor (1), Associate Professor (2), Assistant Professsor(3), Instructor (4), and Lecturer (5), respectively, and the total number of positions in each department is indicated by the series of numbers in each column.

	New					Old					Total				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Fine and Performing Arts															
Art	0	0	2	0	0 = 2	0	1	1	1	0 = 3	0	1	3	1	0 = 5
Music	0	0	2	0	0 = 2	0	0	1	0	0 = 1	0	0	3	0	0 = 3
Speech	1	0	1	1	0 = 3	1	1	0	4	0 = 6	2	1	1	5	0 = 9
TOTALS	1	0	5	1	0 = 7	1	2	2	5	0 =10	2	2	7	6	0 = 17
Humanities															
English	2	1	7	0	0 =10	2	0	0	0	0 = 2	4	1	7	0	0 = 12
Comparative Lit.	0	0	1	0	0 = 1	0	0	1	0	0 = 1	0	0	2	0	0 = 2
Germanic Languages	0	0	0	0	0 = 0	2	0	0	1	0 = 3	2	0	0	1	0 = 3
History	2	0	0	0	0 = 2	1	0	3	1	0 = 5	3	0	3	1	0 = 7
Philosophy	1	0	0	0	0 = 1	2	0	1	0	0 = 3	3	0	1	0	0 = 4
Romance Languages	0	2	4	0	0 = 6	2	0	2	0	0 = 4	2	2	6	0	0 = 10
Slavic Languages	0	0	1	0	0 = 1	1	0	0	0	0 = 1	1	0	1	0	0 = 2
TOTALS	5	3	13	0	0 =21	10	0	7	2	0 =19	15	3	20	2	0 = 40
Social Sciences															
Economics	0	0	3	0	0 = 3	0	0	1	0	0 = 1	0	0	4	0	4 = 4
Government	0	0	1	0	0 = 1	0	0	0	0	0 = 0	0	0	1	0	0 = 1
Psychology	1	2	3	0	1 = 7	0	0	1	0	0 = 1	1	2	4	0	1 = 8
Sociology-Anthro.	3	3	0	0	0 = 6	0	1	0	0	0 = 1	3	5	0	0	0 = 8
TOTALS	4	5	7	0	1 =17	0	1	2	0	0 = 3	4	6	9	0	1 = 20
Biological Sciences															
Botany	0	0	0	0	0 = 0	1	0	1	0	0 = 2	1	0	1	0	0 = 2
Microbiology	0	1	0	0	0 = 1	0	0	0	0	0 = 0	0	1	0	0	0 = 1
Zoology	0	0	0	0	0 = 0	0	0	0	0	0 = 0	0	0	0	0	0 = 0
TOTALS	0	1	0	0	0 = 1	1	0	1	0	0 = 2	1	1	1	0	0 = 3
Physical Sciences															
Biochemistry	0	0	0	0	0 = 0	0	0	0	0	0 = 0	0	0	0	0	0 = 0
Chemistry	1	0	1	0	0 = 2	0	1	1	0	0 = 2	1	1	2	0	0 = 4
Geology-Geography	0	1	1	0	0 = 2	0	0	0	0	0 = 0	0	1	1	0	0 = 2
Physics-Astronomy	1	2	2	0	0 = 5	0	1	1	0	0 = 2	1	3	3	0	0 = 7
TOTALS	2	3	4	0	0 = 9	0	2	2	0	0 = 4	2	5	6	0	0 = 13
Mathematics & Statistics															
Mathematics & Stat.	2	0	7	0	0 = 9	0	0	1	5	0 = 6	2	0	8	5	0 = 15
TOTALS	2	0	7	0	0 = 9	0	0	1	5	0 = 6	2	0	8	5	0 = 15
Linguistics	0	0	1	0	0 = 1	0	0	0	0	0 = 0	0	0	1	0	0 = 1
Asian Studies	0	1	0	0	0 = 1	0	0	0	0	0 = 0	0	1	0	0	0 = 1
TOTALS	0	1	1	0	0 = 2	0	0	0	0	0 = 0	0	1	1	0	0 = 2
COLLEGE TOTALS	14	13	37	1	1 =66	12	5	15	12	0 =44	26	18	52	13	1 =110

(see text - Page 35)

TABLE 23: FACULTY VACANCIES (AS OF 6/12/69)

(FTE BASIS)

REASON FOR VACANCY	PROF.	ASSOC. PROF.	ASST. PROF.	INSTR.		TOTAL
Resignation, death, etc.	9.0	1.0	19.5[1]	7.0	=	36.5
Leave without pay, etc.	6.5	4.5	3.0	1.0	=	15.0
TOTAL VACANCIES	15.5	5.5	22.5	8.0	=	51.5
Vacancies used to "back up" T.A. stipends	11.5	4.0	7.5	1.0	=	24.0
Effective Vacancies	4.0	1.5	15.0	7.0	=	27.5

* * * * * * *

[1] Included in this total is the position of a faculty member who is currently holding a University position outside of the College; and also included is the position of a faculty member currently holding a Career Award Grant.

(See text - Page 35)

NEW FACULTY APPOINTMENTS FOR 1969-70

FINE AND PERFORMING ARTS (18)

Art (5)

Wozniak, James L. - Associate Professor: Ceramics

B.S. - University of Wisconsin
M.S. - University of Wisconsin
M.F.A.- University of Wisconsin
Assistant Professor, Texas Christian University
Assistant Professor and Associate Professor, Illinois State University.

Parker, Elizabeth - Assistant Professor: History of Art

B.A. - McMaster University
M.A. - University of Toronto
Ph.D. - Courtauld Institute of Art, University of London
Teaching, University of Toronto
Assistant Professor, Dickinson College

Schleappi, Dale D. - Assistant Professor: Painting, drawing and design

B.A. - Pratt Institute
M.S. - Pratt Institute
Instructor, Pratt Institute
Assistant to the Chairman of Foundation Program, Pratt Institute
Lecturer, University of City of New York, Queens College
Assistant Professor, Washington University, St. Louis

Wiedenhoeft, Ronald V. - Assistant Professor: Baroque and Modern Architecture

B.C.E.- Cornell University
M.A., University of Wisconsin
Candidate for Ph.D. at Columbia University

Walker, Roslyn A. - Instructor: African Art

B.S. - Hampton Institute
M.A. - Indiana University

Music (4)

Tanner, Peter H. - Assistant Professor: Performer-Teacher Percussion Instruments

B. Music - Eastman School of Music
M. Music - Eastman School of Music
Ph.D. - Catholic University of America
Assistant Professor, Associate Professor and Chairman of Theory-Composition, Wisconsin State University.

Humphrey, Jon C. - Resident Artist: Voice

B.M. - Baldwin-Wallace College
M.M. - University of Illinois
Visiting Lecturer, Drake University.

Peltzer, Dwight - Resident Artist: Pianist

MacPhail College of Music
Hochschule Fuer Musik, Berlin, Germany
Hochschule Fuer Musik, Munich, Germany
Instructor, San Francisco Conservatory
Head of Piano Department, Victoria School of Music, Victoria, B.C., Canada
Co-Chairman of Piano Department, Philadelphia Musical Academy
Visiting Professor, Southern Illinois University.

Kaeser, Fernande - Resident Artist: Pianist

College Classique de Vevey
Institut de Ribaupierre
Conservatoire de Musique, Geneva
Conservatorio Allessandro Scarlatti, Naples
Musikakademie, Vienna
Concerts in most countries of Europe
Two National Concert Tours for the Jeunesses Musicales of Switzerland
Performed in many European broadcasting companies and played with more than 30 orchestras.

Speech (9)

Lynch, James E. - Professor: Mass Communications

A.B. - University of Michigan
M.A. - University of Michigan
Ph.D. - University of Michigan
Instructor, University of Iowa
Assistant Professor, Indiana University
Visiting Assistant Professor, University of Michigan
Associate Professor and Professor, Ohio State University.

Nober, E. Harris - Professor: Communication Disorders, especially audiology

B.A. - Brooklyn College
M.A. - Brooklyn College
Ph.D. - Ohio State University
Assistant Professor, Adelphi University
Associate Professor, and Professor, Syracuse University.

Stelzner, Hermann G. - Associate Professor: Rhetoric, especially rhetorical criticism.

A.B. - Emerson College
M.A. - University of Illinois
Ph.D. - University of Illinois
Instructor, Queens College
Assistant Professor and Associate Professor, University of South Florida.

Nielsen, Theodore L. Assistant Professor: Television Production

B.A. - State University of Iowa
M.A. - University of Michigan
Candidate for Ph.D. at University of Wisconsin
Assistant Professor, Ohio State University

DeLuca, Patricia M. - Instructor: Rhetoric

B.A. - University of Florida
M.A. - University of Michigan
Candidate for Ph.D. at University of Michigan.

Donohue, Thomas R. - Instructor: Rhetoric

B.S. - Bowling Green University
M.A. - Bowling Green University.

Kaplan, Michael - Instructor: Rhetoric

B.A. - University of South Florida
Candidate for M.A. at University of South Florida.

Mihevc, Nancy N. Instructor: Rhetoric

B.A. - University of Illinois
Candidate for M.A. at University of Illinois.

Zimmerman, Jane - Instructor: Rhetoric

B.S. - University of Kansas
Candidate for M.A. at University of Arizona.

HUMANITIES (45)

Comparative Literature (2)

Plaszkiewicz-Pulc, Irmina L. - Assistant Professor: Comparative Literature (Slavic Literature)

B.A. - Mount Holyoke College
M.A. - Radcliffe College
Ph.D. - Harvard
Assistant Professor, Purdue University
Assistant Professor, Mount Holyoke College

Phi Beta Kappa

Miller, Lucien M. - Assistant Professor/Instructor: Comparative (Asian) Literature

A.B. - University of California, Berkeley
M.A. - University of California, Berkeley

Assistant Professor, University of Oregon.

English (14)

Frank, Joseph - Professor and Head of Department: Milton

B.A. - Harvard
M.A. - Harvard
Ph.D. - Harvard
Instructor, Assistant Professor, Associate Professor at University of Rochester
Professor and Chairman of the Department, University of New Mexico.

Creed, Robert P. - Professor and Director of Graduate Studies: Old English and Criticism

B.A. - Swarthmore College
M.A. - Harvard
Ph.D. - Harvard
Assistant Professor and Associate Professor, Brown University
Professor, SUNY, Stony Brook
Visiting Associate Professor, University of the Pacific
Director of Graduate Studies, SUNY, Stony Brook.

Cuomo, George - Visiting Professor: Creative writing in prose and poetry, especially the novel.

B.A. - Tufts University
M.A. - Indiana University
Instructor, University of Arizona
Assistant Professor and Associate Professor, University of Victoria
Professor, California State College, Hayward

Phi Beta Kappa

Ford, Nick A. - Visiting Professor*: Literature of American Black Authors, from colonial times to the present

A.B. - Benedict College
M.A. - University of Iowa
Ph.D. - University of Iowa
Chairman of Department of English and Speech, Morgan State College.

Clayton, John J. - Associate Professor: Contemporary Novel and Creative Writing

B.A. - Columbia College
M.A. - New York University
Ph.D. - Indiana University
Assistant Professor, Boston University
Visiting Professor, California State College (Hayward).

Thelwell, Michael - Assistant Professor: Afro-American literature

B.A. - Howard University
Candidate for M.A. at University of Massachusetts.

Bell, Bernard - Assistant Professor/Lecturer: American literature, specializing in literature by black authors.

B.A. - Howard University
M.A. - Howard University
Candidate for Ph.D. at University of Massachusetts.

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* 1st Semester 1969-70.

Current, Randall D. - Assistant Professor/Instructor: 17th and 18th Century English Literature

B.A. - University of California, Los Angeles
M.A. - University of California, Los Angeles
Candidate for Ph.D. at University of California, Los Angeles.

Jenkins, Paul R. - Assistant Professor/Instructor: Renaissance and 17th Century

B.A. - Grinnell College
Candidate for Ph.D. at University of Washington.

Lyons, Eugene - Assistant Professor/Instructor: Modern English and American Literature

B.A. - Rutgers University
M.A. - University of Virginia
Ph.D. - Candidate at University of Virginia.

Powers, Richard G. - Assistant Professor: American Literature, particularly the American novel.

A.B. - Holy Cross College
Ph.D. - Brown University

Sitter, John E. - Assistant Professor/Instructor: English Literature of the Restoration and Eighteenth Century.

A.B. - Harvard
Candidate for Ph.D. at University of Minnesota.

Germanic Languages and Literatures (3)

Reed, Carroll - Professor: Germanic Philology, Dialect Geography

B.A. - University of Washington
M.A. - University of Washington
Ph.D. - Brown University
Instructor, Brown University
Cryptanalyst, War Department
Assistant Professor, University of Georgia
Instructor, Assistant Professor, Associate Professor, Professor, Acting Chairman of Department of Linguistics at University of Washington
Associate Dean, Graduate School, University of Washington
Chairman, Department of German and Russian, University of California, Riverside

Phi Beta Kappa

Wittkowski, Wolfgang - Professor: Classical and Nineteenth Century Literature

Attending University of Gottingen, Germany
Teaching degree, University of Frankfurt/Main, Germany
Ph.D., Frankfurt/Main, Germany
Studienreferendar, Frankfurt/Main, Germany
Studienassessor, Studienrat, Gymnasium Bad Nauheim
Associate Professor, Professor, Ohio State University.

Holli, Katherine L. - Instructor: Modern Literature: Age of Goethe

B.A. - Kalamazoo College
M.A. - Middlebury Graduate School, Mainz, Germany
Candidate for Ph.D. at Indiana University

Phi Beta Kappa

History (6)

Hanke, Lewis - Professor: Latin American History

B.S. - Northwestern University
M.A. - Northwestern University
Ph.D. - Harvard
Director, Library of Congress (Hispanic Foundation)
Professor, University of Texas
Professor, Columbia University
Professor, University of California at Irvine.

McNeal, Robert H. - Professor: Russian History

B.A. - Yale
M.A. - Columbia University
Ph.D. - Columbia University
Assistant Professor and Associate Professor, University of Alberta
Associate Professor, McMaster University
Associate Professor and Professor, University of Toronto.

Lewis, Archibald R. - Visiting Professor: Medieval History

A.B. - Princeton
M.A. - Princeton
Ph.D. - Princeton
Assistant Professor, Associate Professor, Professor at University of South Carolina

Lewis, Archibald R. cont.

Associate Professor, Professor, Department Head, at University of Texas
Secretary-General, Second International Congress of Historians of the United States and Mexico
Committee for the International Exchange of Persons (Fulbright in History)
American Historical Association Committee to evaluate Ph.D. Programs.

Phi Beta Kappa.

Drake, Fred W. - Assistant Professor: Asian History

A.B. - Stanford University
A.M. - Stanford University
A.M. - Harvard
Candidate for Ph.D., at Harvard

Richards, Leonard L. - Assistant Professor: U.S. History-Jacksonian

A.B. - University of California (Berkeley)
M.A. - University of California (Berkeley)
Ph.D. - University of California (Davis)
Lecturer, San Francisco State

Danahar, David - Instructor: European History

B.A. - Manhattan College Riverdale
M.A. - University of Massachusetts
Candidate for Ph.D. at University of Massachusetts

Philosophy (6)

Matthews, Gareth - Professor: Medieval Philosophy

A.B. - Franklin College (Indiana)
A.M. - Harvard
Ph.D. - Harvard
Assistant Professor, University of Virginia
Assistant Professor, Associate Professor, University of Minnesota.

Sleigh, Robert C., Jr. - Professor: History, Metaphysics, Theory of Knowledge

B.A. - Dartmouth College
M.A. - Brown University
Ph.D - Brown University
Assistant Professor, Associate Professor, Wayne State University
Visiting Associate Professor, Harvard

Phi Beta Kappa

Chisholm, Roderick M. - Visiting Professor*: Metaphysics

A.B. - Brown University
A.M. - Harvard
Ph.D. - Harvard
Instructor, Barnes Foundation
Assistant Professor, University of Pennsylvania
Assistant Professor, Associate Professor, Professor, Brown University
Visiting Lecturer, Harvard
Visiting Lecturer, University of Southern California
Visiting Professor, University of Grāz, Austria
Visiting Professor, Princeton
Consulting editor, Philosophy & Phenomenological Research

Feldman, Fred A. - Assistant Professor: History of Philosophy

B.A. - Bard College
M.A. - Harpur College of the State University of New York
Ph.D. - Brown University
Assistant Professor, University of Illinois.

Romance Languages (12)

Keller, Abraham C. - Visiting Professor**: French Renaissance, Montaigne

B.A. - Ohio State University
M.A. - Ohio State University
Ph.D. - University of California, Berkeley
Instructor, Harvard
Assistant Professor, Associate Professor, Professor at University of Washington

Phi Beta Kappa

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* Spring Semester, 1969-70.
** 1st Semester, 1969-70.

Carre, Marie-Rose - Associate Professor: French language and literature. 17th and 20th century French literature.

Baccalaureat-Classique, Licence-es-Lettres, Agregation des Lettres (Ecrit de l'agregation), - Lycee d'Alger (Algerie)
Doctorat - l'Universite de Paris
Lecturer, Assistant Professor, Smith College.

Phinney, Edward Jr. - Associate Professor: Latin and Greek, Classical Civilization

B.A. - University of Oregon
M.A. - University of Oregon
Ph.D. - University of California, Berkeley
Instructor, Assistant Professor, Associate Professor, University of Southern California
USC Associates Award for Excellence in Teaching

Phi Beta Kappa.

Vargas, Augusto T. - Visiting Professor*: Latin-American Literature, Particularly Peruvian

B.A. - University of San Agustin, Arequipa, Peru
Doctor of Literature, Bachelor of Law, and Attorney at Law, San Marcos University
Professor, Director of School of Special Studies, Dean of Faculty of Letters and Humanities, at San Marcos University
Honorary Professor, Federal University, Brazil
Honorary Professor, University of Trujillo, Peru.

Garaud, Christian - Assistant Professor: French

Baccalaureat es Lettres, Licence es Lettres, Doctorat de Troisieme Cycle, Universite de Poitiers
Lecturer, McMaster University, Ontario, Canada
Assistant Professor, Hollins College, Virginia
Assistant Professor, University of North Carolina.

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* 1st Semester 1969-70.

Sturm, Harlan G - Assistant Professor: Spanish language and literature, Spanish medieval literature

B.A. - University of Minnesota
M.A. - University of Minnesota
Ph.D. - University of North Carolina
Assistant Professor, Queen's College
Assistant Professor, University of Kentucky.

Sturm, Sara H. - Assistant Professor: Italian Language and Literature; medieval and Renaissance Italian; medieval French; Romance Philology

B.A. - University of Minnesota
M.A. - University of Minnesota
Ph.D. - University of North Carolina
Assistant Professor, Queen's College
Assistant Professor, University of Kentucky

Phi Beta Kappa.

Turienzo, Francisco F. - Assistant Professor: Spanish Language and Literature; Unamuno; Golden Age.

Licanciate in Philosophy, Church School
Doctoral Studies at University of Munich
Ph.D. - University of Basel, Switzerland
Supervisor and Adviser to publishing house, Editorial Herder.

Bongiorno, Robert J. - Assistant Professor/Instructor: Italian Language and Literature, Renassance Italian

B.A. - City College of New York
Candidate for Ph.D. at Rutgers University.

Barreda-Tomas, Pedro M - Assistant Professor: Latin America

B.A. - Colegio de la Salle, Havana, Cuba
Ph.D. - Havana University
M.A. - State University of New York at Buffalo
Ph.D. - (American), State University of New York at Buffalo
Instructor and Lecturer at State University of New York, Buffalo.

Slavic Languages and Literatures (2)

Ivask, George - Professor: Russian Literature

Degree of a "jurist", Department of Law, University of Tartu, Estonia
Slavic Studies, University of Hamburg
Ph.D. - Harvard
Visiting Assistant Professor, Assistant Professor, University of Kansas
Visiting Professor, University of California, Berkeley
Associate Professor, University of Washington
Visiting Professor, Vanderbilt University.

Lake, J. Joseph - Assistant Professor/Instructor: Slavic Linguistics; early Russian Literature

B.S. - Georgetown University
M.A. - Yale
Candidate for Ph.D. at Yale.

SOCIAL SCIENCES (23)

Anthropology (1)

Woodbury, Richard B. - Professor and Head of Department: Archeology

B.S. - Harvard
M.A. - Harvard
Ph.D. - Harvard
Associate Professor and Curator, University of Kentucky
Associate Professor, Columbia University
Associate Professor, University of Arizona
Curator, Acting Head, Chairman, U.S. National Museum, Smithsonian Institution.

Asian Studies (1)

Naff, William E. - Associate Professor and Chairman of Asian Studies Program: Japanese Language and Literature

B.A. - University of Washington
M.A. - University of Washington
Ph.D. - University of Washington
Assistant Professor, Associate Professor, Director of Japanese Studies Center, University of Oregon
Chairman, Inter-University Advisory Committee, Center of Japanese Studies in Tokyo

Phi Beta Kappa.

Economics (4)

Wright, Arthur W. - Assistant Professor: Comparative Economic Systems, Urban Economics, Theory

B.A. - Haverford College
Ph.D. - Candidate at Massachusetts Institute of Technology.

Best, Michael - Assistant Professor/Instructor: Public Finance, Economic Development, International Economics

B.A. - University of Washington
M.A. - University of Oregon
Candidate for Ph.D.at University of Oregon.

Gordon, Kenneth - Assistant Professor/Instructor: Industrial Organization, Labor Economics

A.B. - Dartmouth College
M.A. - University of Chicago
Candidate for Ph.D. at University of Chicago.

Kane, James A. - Assistant Professor/Instructor: Regional and Urban Economics

B.S. - LeMoyne College
Candidate for Ph.D. at University of Pittsburgh.

Government (1)

Kramer, Fred A. - Assistant Professor: Public Administration

A.B. - Johns Hopkins University
M.A. - Rutgers University
Ph.D. - Syracuse University.

Linguistics (1)

Binnick, Robert I. - Assistant Professor: Syntax and Semantics; Computational Linguistics

B.A. - Queens College
M.A. - University of Chicago
Ph.D. - University of Chicago.

Psychology (8)

Berger, Seymour N. - Professor: Social Psychology

B.A. - Oklahoma State University
M.A. - Columbia University
Ph.D. - Cornell University
Instructor, Assistant Professor, Associate Professor, Assistant Chairman in Department of Psychology and Acting Chairman (Summer) in Department of Psychology, Indiana University.

Donahoe, John W. - Associate Professor: Psychological Statistics, Learning

B.A. - University of Kentucky
M.S. - University of Kentucky
Ph.D. - University of Kentucky
Assistant Professor, Associate Professor, University of Kentucky
NIMH Special Postdoctoral Fellow, University of Rochester.

Krieckhaus, Edward E. - Associate Professor: Physiological Psychology

B.A. - Williams College
Ph.D. - University of Illinois
Assistant Professor, Yale
Assistant Professor, University of California at Davis.

Emrick, John A. - Assistant Professor: Educational Psychology

A.B. - University of California, Los Angeles
M.A. - University of California, Los Angeles
Ph.D. - University of California, Los Angeles
Research Psychologist, I.B.M., New York.

Gadlin, Howard - Assistant Professor: General Psychology, Perception, Esthetics.

B.A. - Queens College
Ph.D. - University of Michigan
Assistant Professor, University of Illinois

Phi Beta Kappa.

Pollatsek, Alexander - Assistant Professor: Scaling, Statistics, Learning (Cognition)

B.S. - University of Michigan
M.S. - (Psychology), University of Michigan
M.A. - (Mathematics), University of Michigan
M.A. - (Chemistry), Harvard
Ph.D. - University of Michigan
Teaching Fellow, University of Michigan
Temporary Assistant Lecturer, University of Sussex, England

Phi Beta Kappa.

Well, Arnold - Assistant Professor/Instructor: Multivariate analysis, statistics and perception

B.Sc. - McGill University
M Sc. - University of Alberta
M.A. - University of Oregon
Candidate for Ph.D., University of Oregon

Lieberman, Alan J. - Lecturer: Clinical Psychology

B.S. - Brooklyn College
M.A. - University of Connecticut
Ph.D. - University of Connecticut
Post-Doctoral Fellow, The Menninger Clinic
Chief Psychologist, Berkshire Mental Clinic
Consultant, Child Guidance Center, University of Massachusetts
Director of Counseling, Simon's Rock, Great Barrington

Sociology (7)

Killian, Lewis M. - Professor: Race and Ethnic Relations, Collective Behavior

A.B. - University of Georgia
M.A. - University of Georgia
Ph.D. - University of Chicago
Assistant Professor, University of Oklahoma
Associate Professor, Professor, Chairman of Department of Sociology at Florida State University
Visiting Professor, University of California, Los Angeles
Head, Department of Sociology, University of Connecticut

Speier, Hans - Professor: Political Sociology, Sociology of Knowledge, Sociology of Literature, Conflict. (Sociology & Government)

Studied at University of Berlin
Ph.D. - University of Heidelberg
Lecturer, University of Berlin
Professor, New School for Social Research
Visiting Professor, University of Illinois
Section Chief and Acting Chief, Federal Communications Commission, Washington D.C.
Propaganda Policy Advisor, Office of War Information, Washington, D.C.
Associate (Acting) Chief, Department of State, Washington,D.C.
Social Science Division and Research Council, Rand Corp.

Lewis, Michael - Associate Professor: Family; Race Relations

A.B. - Brooklyn College
M.A. - Princeton
Ph.D. - Princeton
Instructor, Assistant Professor, University of Illinois.

Platt, Gerald M. - Associate Professor: Sociology of Education; Sociol Psychology

B.A. - Brooklyn College
M.A. - Brooklyn College
Ph.D. - University of California, Los Angeles
Lecturer, Harvard.

Simpson, Jon E. - Associate Professor: Criminology, Deviance, Sociology of Law

B.A. - Ohio Wesleyan University
M.A. - Ohio Wesleyan University
Ph.D. - Ohio Wesleyan University
Assistant Professor, Associate Professor, University of Southern California.

Sutton, Gordon F. - Associate Professor: Social Welfare

B.A. - Wayne State University
M.A. - Wayne State University
Ph.D. - University of Michigan
Statistician, U.S. Bureau of Census, Washington, D.C.
Lecturer, University of California, Los Angeles
Chief, U.S. Department of Health, Education and Welfare
Deputy Chief, U.S. Office of Economic Opportunity, Washington, D.C.

BIOLOGICAL SCIENCES (3)

Botany (2)

Taylor, Marie C. - Visiting Professor: Morphology

B.S. - Howard University
M.S. - Howard University
Ph.D. - Fordham University
Instructor, Cardoza High School, Washington, D.C.
Assistant Professor, Associate Professor, Professor, Chairman of Botany Department, Howard University.

Walker, James W. - Assistant Professor/Instructor: Taxonomy of flowering plants

B.A. - University of Texas
Candidate for Ph.D. at Harvard

Phi Beta Kappa.

Microbiology (1)

Dowell, Clifton E. - Associate Professor: Molecular genetics, general microbiology

B.A. - Texas Christian University
M.A. - Texas Christian University
Ph.D. - University of Texas
Research Fellow, California Institute of Technology
Assistant Professor, Tulane University School of Medicine
Assistant Professor and Associate Professor, University of California, Davis.

Zoology (0)

No Appointments.

PHYSICAL SCIENCES (12)

Biochemistry (0)

No Appointments.

Chemistry (3)

Chien, James C. W. -- Professor: Physical Chemistry

B.S. - St. John's University, Shanghai, China
B.A. - Wayland College
M.S. - University of Kentucky
Ph.D. - University of Wisconsin
Research Chemist and Senior Research Chemist, Hercules Research Center, Wilmington, Delaware.

Cade, Paul E. - Associate Professor: Theoretical Chemistry

B.S. - University of Texas
B.A. - University of Texas
Ph.D. - University of Wisconsin
Research Associate, Research Physicist, University of Chicago

Phi Beta Kappa.

Barnes, Ramon M. - Assistant Professor: Analytical Chemistry

B.S. - Oregon State University
M.A. - Columbia University
Ph.D. - University of Illinois
Postdoctoral analytical chemistry, Iowa State University
Lecturer, Baldwin-Wallace College

Geology and Geography (2)

Wise, Donald U. - Visiting Associate Professor: Structural and Lunar Geology

B.S. - Franklin and Marshall College
M.S. - California Institute of Technology
Ph.D. - Princeton
Associate Professor, Franklin and Marshall College

Phi Beta Kappa.

Hafner, James A. - Assistant Professor/Instructor: Cultural Geography, Geography of Asia

A.B. - Miami University, Oxford, Ohio
A.M. - University of Michigan
Candidate for Ph.D. at University of Michigan.

Physics and Astronomy (7)

Inglis, Davis R. - Professor: Nuclear Theory, Geophysics

A.B. - Amherst College
D.Sc.Hon. - Amherst College
D.Sc. - University of Michigan
Instructor, Assistant Professor, Ohio State
Assistant Professor, University of Pittsburgh
Assistant Professor, Princeton
Associate Professor, Johns Hopkins University
Senior Physicist, Argonne National Laboratory
Visiting Professor, University of California
Visiting Professor, Grenoble
Professorial Lecturer, University of Chicago
Visiting Scientist, CERN.

Guyer, Robert A. - Associate Professor: Solid State Theory

B.S. - New Mexico State
Ph.D. - Cornell University
Assistant Professor, Duke University
Research Fellow, Harvard.

Pichanick, Francis - Associate Professor: Experimental Atomic Physics

B.Sc. - University of Cape Town
M.Sc. - University of Cape Town
Ph.D. - Oxford University
Research Assistant, Instructor, Assistant Professor, Yale
Rhodes Scholar.

Schultz, Claude - Associate Professor: High Energy Experimental Physics

Attended University of California, Davis
A.B. - University of California, Berkeley
Attended Federal Institute of Technology, Zurich
Ph.D. - University of California, Berkeley

Schultz, Claude cont.

Research Associate, Lawrence Radiation Laboratory
Acting Assistant Professor, University of California, Berkeley
Assistant Professor, Columbia University

Phi Beta Kappa.

Gerace, William J. - Assistant Professor: Nuclear Theory

B.S. - Massachusetts Institute of Technology
Ph.D. - Princeton
Instructor, Princeton

Kane, Joseph - Assistant Professor: Solid State Theory

B.S. - University of Wisconsin-Milwaukee
M.S. - University of Illinois
Ph.D. - University of Illinois
Research Associate, Instructor at Cornell University
Postdoctoral Fellow, Institute Max Von Laue-Paul Langevin, Germany

Taylor, Joseph H. - Assistant Professor: Radio Astronomy

B.A. - Haverford College
Ph.D. - Harvard
Lecturer, Harvard
Research Fellow, Harvard College Observatory.

MATHEMATICS AND STATISTICS (16)

Guttman, Irwin - Professor of Statistics: Sampling and Population Problems

B.S. - McGill University
M.A. - University of Toronto
Ph.D. - University of Toronto
Assistant Professor, University of Alberta
Research Associate, Princeton
Associate Professor, McGill University
Visiting Associate Professor, Professor, University of Wisconsin
Visitor, London School of Economics.

Snapper, Ernst - Visiting Professor*: Algebra and Geometry

Candidandus, University of Amsterdam
M.A. - Princeton
Ph.D. - Princeton
Instructor, Visiting Associate Professor, Visiting Professor, Princeton
Assistant Professor, Associate Professor, Professor, University of Southern California
NSF Postdoctoral Fellow, Harvard
Professor, Miami University, Oxford, Ohio
Professor, Indiana University
Professor, Dartmouth College.

Connors, Edward - Assistant Professor: Algebra

B.A. - College of the Holy Cross
M.A. - University of Massachusetts
Ph.D. - University of Notre Dame
Instructor, University of Notre Dame

Horowitz, Joseph - Assistant Professor of Statistics: Markov Processes

B.S. - Massachusetts Institute of Technology
M.S. - University of Michigan
Ph.D. - University of Michigan
Assistant Professor, University of Toledo.

Jones, Stephen L. - Assistant Professor: Topology

B.A. - University of Texas
Ph.D. - University of Wisconsin

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* First Semester 1969-70

Pollatsek, Harriet - Assistant Professor*: Algebra (Group Theory)

A.B. - University of Michigan
A.M. - University of Michigan
Ph.D. - University of Michigan
Instructor, Western Michigan University
Assistant Professor, University of Toledo

Broshi, Aviad M. - Assistant Professor: Group Theory

A.B. - Harvard
S.M. - University of Chicago
Ph.D. - University of Chicago.

Coury, John E. - Assistant Professor: Analysis

B.S. - Harvard
M.S. - University of Washington
Ph.D. - University of Washington.

Lew, Robert A. - Assistant Professor/Instructor: Inference

B.A. - Yale
M.S. - University of Michigan
Candidate for Ph.D. at University of Michigan.

Starling, A. Gregory - Assistant Professor: Algebraic Topology

B.S. - University of Arkansas
M.S. - University of Arkansas
Candidate for Ph.D. at University of Arkansas.

Weaver, Robert J. - Assistant Professor: Lattice Theory and Algebra

A.B. - Lafayette College
M.A. - University of Delaware
Ph.D. - University of Massachusetts.

Burleson, Donald R. - Instructor: Undergraduate Teaching

B.A. - Midwestern University
Candidate for M.S. at Midwestern University.

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* First Semester 1969-70.

Malone, Patrick T. - Instructor: Algebra

B.A. - Lewis College
M.A. - Kansas University

McCormack, Vincent F. - Instructor: Undergraduate Teaching

B.S. - U.S. Naval Academy and U.S. Naval Postgraduate School
Candidate for M.S. at State University of North Carolina
Instructor, University of North Carolina.

Neenan, Alice - Instructor: Undergraduate Teaching

B.A. - State University of New York, Binghampton (Harpur College)
M.S. - University of Illinois

Shafer, John - Instructor/Assistant Professor: Algebra

B.S. - Fresno State College
M.S. - Fresno State College
Candidate for Ph.D. at University of California, Davis.

A N N U A L R E P O R T

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SCHOOL OF BUSINESS ADMINISTRATION

UNIVERSITY OF MASSACHUSETTS

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ANNUAL REPORT, 1968-1969

SCHOOL OF BUSINESS ADMINISTRATION

UNIVERSITY OF MASSACHUSETTS

WENDELL R. SMITH, DEAN

PREFACE

I began my period of service to the University of Massachusetts (January, 1969) with a strong resolve to broaden the reach of the School of Business Administration within the University, the Commonwealth, and the academic and business communities at large; while maintaining standards of academic excellence that had already been established.

Toward this objective, a Planning and Development Task Force that has met periodically over the year was established. The Task Force was charged with the responsibility of defining objectives to be achieved by 1974 and 1980 and developing programs of implementation. This effort involves a review of policies, organization, and programs dealing with all aspects of the teaching, research, service, and development functions of the School.

Meetings held during the Summer of 1969 disclosed the need for in-depth studies in several areas. Ad-hoc Committees were established to study these areas and to submit recommendations to me and to the Task Force. These committees have been concerned with:

1. The role of the School of Business Administration in continuing education.

2. Opportunities for collaborative programs to be offered with other divisions of the University such as: Public Administration, Hotel and Restaurant Management, Hospital Administration, and Educational Administration.

3. Facilities Planning - estimating developing needs for offices, classrooms, and special facilities and equipment that will be required if we are to fulfill our obligations to students and with reference to the needs for continuing education that exist within the Commonwealth. A copy of this report is attached as Appendix F.

The Planning and Development Task Force is now working toward the completion of a report to be presented to the faculty in the Fall.

STATISTICAL INFORMATION

1. Appropriation for the Fiscal Year:

Code		1966 - 1967	1967 - 1968	1968 - 1969
03		$20,700.00	$21,000.00	$31,600.00*
10		6,000.00	8,000.00	10,000.00
11		900.00	- - - - -	- - - - -
12		2,200.00	1,500.00	1,823.77
13		7,000.00	10,750.00	10,000.00
14	(14-1)	9,200.00	10,000.00	12,400.00
15		3,500.00	2,000.00	3,000.00
16		686.00	700.00	1,500.00

2. Personnel: Number in Each Rank

	As of September		
	1966	1967	1968
Professors	9	12	18
Associate Professors	13	13	18
Assistant Professors	15	21	17
Instructors	5	3	2
Lecturer	1	2	3
Total Faculty (excluding Dean)	43	51	58

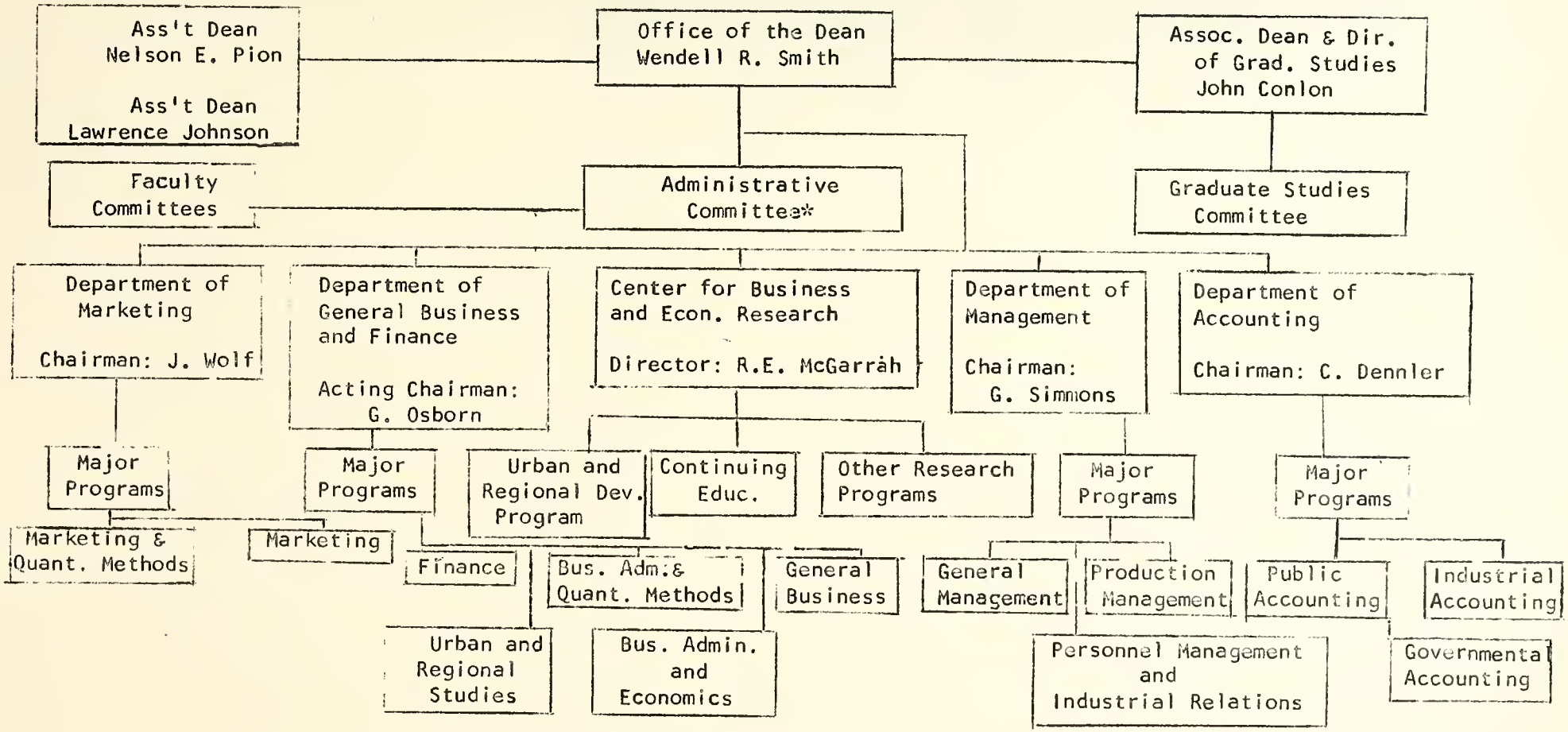
NOTE: These figures include faculty on leave of absence:

Two Professors in 1966
One Professor and One Assistant Professor in 1967
One Professor, One Associate Professor, and One Assistant Professor in 1968

*includes special allocations for recruiting and related expenses not included in previous years

3. Organization Chart
June, 1969

School of Business Administration



*Includes the Dean, Associate Dean, Department Chairmen, and Director of the Center for Business and Economic Research.

4. Students:

(a) Juniors and Seniors by Major	As of September 1966	1967	1968
Accounting	143	169	154
General Business and Finance	96	129	164
Management	124	158	199
Marketing	100	152	154
Undeclared Juniors*	71	98	109
TOTAL	524	706	778
Sophomores*	316	344	462
Freshmen*	303	237	325
Graduate Students on Campus	87	137	104
TOTAL SBA Students on Campus	1230	1424	1699
Graduate Students at Pittsfield	24	48	58

*Students select majors not later than the end of the first semester of the Junior year.

(b) Number Of Students Taught
(majors and others - - class enrollments)

	2707	3250	3891

ACTIVITIES AND PLANS

5. Faculty Publications, Research Grants, Research Projects and Other Professional Activities

The members of the faculty of the School of Business Administration continue to be highly productive from the point of view of publications and related activities. The record for 1968-69 is as follows:

Articles Published or accepted for publication -- 35
Books published -- 5
Books scheduled for publication -- 6
Books under contract -- 3

This is a conservative view of the publication output of the School. It takes into account only articles appearing in recognized professional or academic journals; and is limited to contributions that have been published, or barring some unforeseen development, will be published. Many other manuscripts are in various stages of preparation.

Again this year it is clear that the faculty of the School of Business Administration is becoming much more visible on the State, New England, and National scenes. The reports of the Departments (Appendicies A.through D) provides documentation on this point. My own activities in this area have involved continuing as consultant to the Secretary of Commerce, completing my term as Chairman of the National Marketing Advisory Committee, participation in several Committee for Economic Development and National Industrial Conference Board Activities, in addition to numerous appearences before Alumni groups and business groups.

The majority of our senior faculty members, are a growing percentage of our younger men, are well recognized by their own professional groups. Several hold offices in their associations. Many are active on committees of various sorts. Examples are Professors Backer and Morrison in Accounting, Young and Wortman in Management, Wolf and Venkatesen in Marketing, and Osborn and Cheng in General Business and Finance. John Conlon, our Associate Dean, continues to be active in the area of mediation and arbitration of labor disputes. Assistant Dean Lawrence Johnson is much in demand as a speaker before groups, such as the American Management Association, with reference to problems in providing education and training for the disadvantaged.

In my report a year ago, I expressed some concern about the limited involvement of the members of the faculty of the School of Business Administration in applied, problem-solving research. Largely through the stimulus provided by the Center for Business and Economic Research, we have experienced a marked increase in this activity. Details with reference to specific research projects are to be found in the attached reports of the Departments of the School of Business Administration and the Center for Business and Economic Research.

I would be less than candid if I failed to report that this development has not been accepted with great enthusiasm by all members of the faculty. My mandate to "broaden the reach" of the School is capable of being interpreted as a dilution of the pursuit of academic excellence, which was for so long the major, if not sole, objective of the School. These and related problems of growth of development are normal, and will be solved as the activities that are being added become assimilated into the total program.

The faculty of the School of Business Administration continues to be called upon for substantial participation in University-wide activities. Many are effectively involved in University committees, and several are serving the University as consultants to some of its administrative activities. During this year, for example, members of the Management Department conducted programs of training for university supervisors who are for the first time dealing with organized labor.

As Professor Simmons points out in his report for the Management Department, one of the best known Professors of Management in the United States, Professor Litterer, will be joining us in the Fall of 1969. At about that same time he will be assuming the Presidency of the Academy of Management.

6. Major Accomplishments and 7. Special Programs

Our faculty recruiting activities this year have been unusually rewarding. Next Fall we will welcome new faculty members from the Universities of Illinois, Michigan State, Colorado, Indiana, Louisiana State, New York University. Rensselaer Polytechnical Institute, and Western Illinois. However, our success in this area also creates a problem. Faculty members of the quality that we have been recruiting properly assume the availability of adequate travel allowances and support services to retain the cutting edge

of their professional competence and to make their capabilities available to their students and colleagues of the University of Massachusetts. If enhanced levels of support are not forthcoming, we can very quickly slide back from the "threshold of excellence" that we have now achieved. If this should occur, the road back to that threshold will be as hard as the road we have traveled in reaching our present position. Not only will we be disadvantaged from a recruiting point of view, we will experience an exodus of highly capable but disillusioned faculty members who have cast their lot with us over the last several years.

During the year, both the MBA and Doctoral Programs of the School of Business Administration were reviewed in some detail. Relatively minor changes were made to up-date the programs to keep them in line with the current requirements of our students. Additionally, a program leading to the degree of Master of Science in Management Science was developed and approved for initiation in the Fall of 1969.

Two other major accomplishments call attention to the quality and the sense of social responsibility felt by the members of the faculty of the School of Business Administration. Program ABLE (Accelerated Business Leadership Education), which was developed a year ago by Assistant Dean Lawrence Johnson and sizable group of faculty volunteers, became operational during the first week of June 1969. However, the funding of the program by industry and by EDA in Washington is inadequate to provide for the compensation of the faculty involved in the intensive summer program that is underway. Faculty members are, however, working enthusically in the program and will continue to do so in spite of the time and money sacrifices that are involved. The same is true of the BEST Program (Business Employment Skills Training) being offered in the Springfield area (details of this program are included in the report of the Center for Business and Economic Research Appendix E). In this case, Professor Stephen Michael heads a group of non-compensated volunteers who are providing an evening program in Business that will extend over many months for the disadvantaged in the Springfield area.

Hopefully, both of these programs will prove to be so highly successful that it will be possible to fund them more adequately the second time around. In any event, what is happening now gives us pardonable pride in the quality of our people.

During the 1968-69 academic year, the School of Business Administration organized a Student-Faculty Committee which met throughout the year on a bi-weekly basis. The Committee was made up of four appointed members from each of our four Departments plus faculty members selected by the Dean on the basis of their interest in interacting with

students. The Dean, Associate Dean, and the Assistant Dean for undergraduate activity were involved in all meetings. This experiment was successful in establishing a meaningful interchange of ideas between faculty and administration and students. In almost every instance, areas of potential difficulty in student relations were found to be attributable to information gaps. It seems clear that this is more apt to be the case in the professional schools than in Arts and Sciences. However, we were unsuccessful in our attempt to get meaningful advice from the members of this student group as to how we should organize continuing student activities in the School toward the goals of (a) building a more visible professional attitude and (b) providing a basis for improved communication. During the Fall of 1969, we will re-activate a group of this sort for the purpose of asking them to design a system for selecting the membership of an SBA Student Council equipped to counsel with us on a variety of matters. Additionally, we are considering the various ways in which students may become involved in some of the operating committees in the School.

The JET (Junior Executive Training) Program that we operate in cooperation with the Experiment in International Living continues to be one of our most satisfying activities. Whereas last year we had an all time high of 41 registrants for this program, this year there are approximately 60. The young people involved (both men and women) come primarily from Switzerland and nearby Western European countries. However, the group this year does include representatives from Austria, Japan and Argentina. During the first week in September, we will initiate our first "JET Refresher" Program which will be a one-week seminar for alumni of the JET Programs to be held in Como, Italy. This activity will be self funding. The expenses involved in manning the Program will be paid from fees collected from the participants that have been agreed upon with the Experiment in International Living.

Under the leadership of Dean Conlon, another successful Arbitration Conference was helf on the campus this year. We also were hosts to the New England Association of Business Schools at a two-day conference held last Fall. Arrangements are now being concluded for an International Banking Conference to be held in the Murrary Lincoln Center during the summer of 1970. Additional conferences, involving primarily our own faculty and businessmen from the Commonwealth, are being planned.

9. Future Plans and Needs.

In my report a year ago, major attention was given to our plans for further extension

of the MBA Program and the establishment of the School of Business Administration's Planning and Development Task Force. Our ability to work effectively in the expansion of the MBA Program has been, in part, frustrated by the fact that our allocation of travel funds made it impossible for the Director of the Program to visit campuses for interviewing purposes as we had hoped. It is clear that this is an essential activity if the Program is to grow and be enriched. We are being somewhat more successful on the matter of growth from within in the sense that active conversations are now being carried on with other divisions of the University toward the offering of Masters level degrees that would involve our close collaboration. The Planning and Development Task Force is once again meeting on a weekly basis, and should have a report ready for the faculty to review in the early Fall.

It is perhaps worthy of mention here that a new attitude seems to be developing toward long-range planning in the business community. To an extent, it is a backlash against over planning. By over planning is meant setting up very specific and constraining plans for the future that rather quickly become irrelevant because of the dynamic environment within which they are being carried out. The "new look" holds that planning can and should be specific and detailed with reference to those areas of an institution's future that involve commitment and investment now if certain desirable things are to happen in the future. With reference to other areas, where such commitment is not essential, planners are suggesting positive programs for "staying loose". Because of accelerated rates of both technological and social change, it becomes an advantage to become purposely uncommitted as a positive program for optimizing the adaptability of the organization to changing circumstances. If such an approach is taken as a rationalization for doing no planning at all, the obvious result is disaster. On the other hand, if it is recognized that optimizing one's ability to adapt is important, one works very hard to isolate the variables that have the ability to effect the future so that they can be monitored and studied and utilized as a basis for response.

This is a long way around to say that the goals of our Planning and Developing Task Force have gone through a number of stages over the year. In Facilities Planning where advance commitment is essential, we have been quite specific and detailed. In other areas we hope to establish a system of monitoring that will provide the basis for continuing study and adaptation to ever changing horizons of opportunity.

I strongly suspect that this section of the reports submitted by most of the Deans

will have a common theme. It seems quite clear that the most serious problems on the Amherst Campus of the University of Massachusetts are those having to do with the inadequacy of funds for support activity and for the development of those new programs essential to preventing our activities from falling far behind the parade. While it is clear that the University is obligated to growth in order to provide ever increasing opportunities for the youth of the Commonwealth, somehow it must be understood that this cannot be done unless the secretarial, research, and administrative support that is necessary is made available. At the present time a high percentage of the members of my faculty find it necessary to either type their own correspondence or to have it handled at their own expense outside of the School. Our Department Chairmen spend hours of valuable time in the handling of reports and records that should be handled by an administrative assistant. In my office there are three secretaries who are expected to serve as receptionists and sources of information as well as to support the activities of the Dean, the Associate Dean, the Assistant Dean, and the Director of the MBA Program. This leaves undone many things that are important to the achievement of the development goals of the University. For example, we have had to postpone the development of current lists of Alumni so that they can be kept up-to-date on developments within the School and, hopefully, become interested in supporting some of its activities.

To a large extent our problem is in the inadequate number of support personnel available, but it is also qualitative. So long as salary scales for non-professional personnel remain at their present low levels, the University will not compete effectively in the market for people to work at jobs much more requiring than is true of the State's system of employment as a whole.

I am deeply concerned about our ability to hold the gains that have been made over the last several years. These gains have been achieved because of the atmosphere of enthusiasm and buoyancy that has prevailed within the University in general and the School of Business Administration in particular. That enthusiasm and buoyancy is fast disappearing as a result of the events of the last few months. It can be re-established only if priorities are given to effective maintenance and support of what we have as opposed to quantitative growth not associated with the increased revenues required to support it.

To sum up, the traditionally high morale of members of the fauclty of the School of Business Administration is well illustrated by their willingness to launch the

ABLE and BEST Programs by taking the extra effort "out of their hides". How long can one expect this kind of response unless acceptable minimum levels of staff support can be expected? While we do have needs for equipment and for improved facilities, I shall not detail them here. I would not want to divert attention from the key problem, that of staff support.

A P P E N D I C E S

Grants, Research and

Faculty Activity

(Excerpts Departmental Reports)

Appendix A

Department of Accounting, Professor Carl Dehler Jr., Chairman

Departmental Activities:

Publications:

Articles:

"Computers Versus Mathematics," The Accounting Review, April 1969, pp. 359-374, By A. Wayne Corcoran.

"Effect of the Investment Tax Credit in the Capitalize-Expense Decision," The Accounting Review, July 1968, pp. 517-522, by Thomas Morrison (with Stephen L. Buzby).

"A New Application of Calculus and Risk Analysis to Cost-Volume Profit Changes," The Accounting Review, April 1969, pp. 330-344 by Thomas Morrison (with Eugene Kaczka).

"Inventory Determination Through Statistical Sampling Procedures," Massachusetts CPA Review, August-September 1968, pp. 10-19, by Richard Simpson.

Other:

Associate Professor Krzystofik continues as Editor of the Massachusetts CPA Review, and also contributed five editorials.

Research Grants and/or Projects:

Professor Backer has completed the National Association of Accountants study "Financial Reporting and Credit and Security Investment Decisions," 425 pages, to be published in September or October, 1969.

Professor Morrison received a grant from the National Association of Accountants and is currently engaged in research for the project, "Financial Controls for International Operations."

Professor Corcoran is under contract to write a text in managerial mathematics-operations research. The manuscript is approximately one-half complete.

Assistant Professor Simpson received a School of Business Administration Summer Research Grant for 1969. He has completed the research and writing of two articles which have been submitted to professional journals: "A Computer Model of Dollar-Value Retail LIFO Inventory Pricing" (with Roy Ageloff and Professor Corcoran); and "An Empirical Study of Possible Income Manipulation".

Professor Singer received a School of Business Administration Summer Research Grant for 1969 to revise "Program on Problem-Solving." He continues with research activities related to system development for elementary accounting.

Other Professional Activities:

Papers Delivered:

Professor Singer, "Teaching-Learning System for Elementary Accounting," New England Regional Meetings of the American Association of Accountants, April, 1969.

Assistant Professor Simpson, "An Auditing Problem-Sampling for Errors," Internal Auditing Department, Massachusetts Mutual Life Insurance Company, November, 1968.

Several papers were presented by Professor Backer at various events throughout the country.

Panel Members:

Associate Professor Morrison was one of two discussants on a panel, "Accounting Surrogates in Central Planning," at the American Association of Accountants Annual Meetings, San Diego, August 26-28, 1968

Professor Backer also participated in a panel at the American Association of Accountants Annual Meeting and advised both governmental and professional committees.

National Association Committee Membership:

Professor Singer is a member of two American Association of Accountants Committees.

Professor Backer is a member of the National Association of Accountants Grant in Aid Committee and the American Association of Accountants Managerial Accounting Committee.

State Committee Membership:

Associate Professor Krzystofik is a member of the Massachusetts Society of CPA's Executive Committee and Chairman of its Publications Committee.

Professor Anderson is a member of the State Society's Education Committee.

Meetings Attended:

National Education Laboratory Meetings, International and State meetings of TIMS, AAA Northeast Regional Meetings, Annual AAA Meetings in San Diego, Midwest meetings of Business Association were attended by department members.

Off-Campus Teaching:

Assistant Professor Fitzgerald was a visiting faculty member at California State College, Los Angeles, Summer, 1968.

Professor Corcoran taught two seminars for the National Association of Accountants in New York City.

Formal Continuing Education Activities:

Assistant Professor O'Connell completed 18 hours of law courses at Western New England College.

Assistant Professor Fitzgerald attended a course in Tax Research sponsored by the New York State Society of CPA's.

Other:

Several textbooks and a number of articles are in the planning and development stages by department members.

Appendix B

Department of General Business and Finance
Professor Grant Osborn, Acting Chairman

Departmental Activities:

Books:

Allan & Hartzler, "An Introduction to Law - A Functional Approach," under contract with Scott, Foresman in galley proofs.

Osborn, "Personal and Business Income Insurance," under contract to Prentice-Hall, progress made and hope to finish manuscript in July.

Articles:

Allan and Hartzler, "Legal Theory," American Business Law Journal.

Hartzler, "Economic Functions of Contracts," American Business Law Journal.

Goldman, "Analysis of CPA Examinations," Massachusetts Accounting Review.

Kaczka, "Calculus - Risk Analysis - A New Approach," Accounting Review.

Plattner, "Fund Administration and Dividend Policy," Quarterly Review of Economics.
"How Electrical Utility Managers Determine Dividend Policy" Public Utilities Fortnightly.
"Fund Patterns of Electrical Utilities," Public Utilities Forthnightly.

Belovicz, "Critique of Risky Shift," proceedings of Academy of Management.
"Group Risk Taking - Analysis and Evaluation," Journal of Experimental Social Psychology

Osborn, "Private Health Insurance in Great Britain," Journal of Risk and Insurance.

Deets, "Variance Preference and Variance Shifts in Financial Decision Making," Journal of Organizational Behavior and Human Performance.

Above articles have been accepted or published. Other articles have been submitted by Belovicz, Rivers and Kaczka.
Book reviews by Osborn and Rivers.

Abstracts:

Belovicz, "Behavioral Aspects of First Difference Models," Econometrics Society.

Research Grants:

University Summer Research Grants to Belovicz and Deets.

Office of Education Grant to Kaczka

Research Grant from Lower Pioneer Valley Regional Planning District for Economic Development Project to Rivers, Plattner and Burak.

Other Research Projects:

Belovicz, "Spectral Analysis of Treasury Bill Data"

Deets, "Random Walk with Reflecting Barriers in Stock Market Prices."

Other Professional Activities:

Rivers received a grant from Delta Nu Alpha to attend Materials Handling Institute at Northeastern University for one week this summer.

Plattner was guest speaker at Symposium on Systems Analysis for Social Problems - Washington Operations Research Council.

Kaczka was commissioned to do an article for American Institute of Decision Scientists.

Osborn - Pension Review Report for University of Massachusetts.

Rivers - Five college transportation project.

Major Accomplishments of Unit

a. Added three well qualified faculty members

b. Several faculty members played key roles in development and promotion of the ABLE Program.

c. A new masters's program in Management Science was developed and approved.

d. A new course in Metropolitan Transportation was developed and approved by the faculty.

The Department is reviewing all requirements for the various areas of concentration such as financial management, general business and economics, urban regional studies, etc.

New personnel needed include one position in Transportation and another in the Quantitative area.

Appendix C

Department of Management, Professor George Simmons, Chairman

The Management Department has continued to develop professionally in a manner worthy of substantial note, both within the University and outside. These accomplishments reflect credit on the University and its publics. We may now say, with reasonable confidence, that the Department has national stature and that our name often appears whenever the inevitable "rankings" occur. As proud as we are of our accomplishments, we believe that much room for further development exists.

Publications, Speeches and Grants

This year has been an unusually productive one for the Management faculty. Members of the Department produced six books and monographs (published or in production) 14 articles (published or accepted for publication), and delivered 25 papers or speeches. New courses were introduced into the Ph.D. program by the departmental faculty and 10 grants or similar awards were received.

Associations

Members of the Management faculty continue to assume a substantial role in the Academy of Management, an association in which the Department's influence is growing dramatically. One of our new appointments for the next academic year, Professor Joseph A. Litterer, of the University of Illinois, will begin his term as President of the Academy at the same time he joins our faculty. Also, Professor Stanley Young is Vice President of the Eastern Academy and Professor Max Wortman is chairman of the Academy of Management's Placement Committee. Many of the other faculty members hold Committee posts in the national academy and associated organizations.

Recruiting

In addition to Professor Litterer, mentioned above, we were fortunate to appoint Mr. Tim Bornstein, currently assistant to the Chairman of the National Labor Relations Board, as Associate Professor of Management, beginning with the next academic year.

General: The Past Year and the Future

I think we all have to be careful to insure that the momentum we have obtained in the development of the business school doesn't wear out, particularly as this University and others face challenging times. We have attained in the School of Business Administration a capable and productive faculty, and as this capacity grows, the need for complimentary resources increases more than commensurately. The needs we sense are clear and not at all unique. They are, in approximate order: secretarial resources, teaching and research assistants, and support for research and other professional activities.

Appendix D

Department of Marketing, Jack S. Wolf, Chairman

Departmental Achievements

A substantial revision of the undergraduate marketing curriculum was finalized in the Spring Semester of 1969. Six courses carried over from the previous revision were deleted. Two new courses were introduced. A number of other offerings were modified in terms of new titles, descriptions, and content. The new undergraduate curriculum in marketing effective Fall, 1969, consists of four required courses in a departmental core. These are:

Buyer Behavior
Marketing Research
Marketing Models
Marketing Management

In addition, undergraduate marketing majors must complete six hours of advanced behavioral science and six hours of advanced economics. These courses may be selected by the student in terms of his particular interests within the field. Given the revision, there is considerably more freedom on the part of the student to elect courses. A number of additional marketing courses may be elected by the students. These courses are:

Advanced Marketing Research
Marketing Strategy
Product Planning and Development
Marketing Communications
Marketing Network Analysis
Analysis for Pricing Decisions
International Marketing
Seminar in Marketing

Recruiting efforts were especially fruitful this year. As of September, 1969, the Department will welcome the following new faculty members:

Assistant Professor Mary K. Barber. Mrs. Barber has completed her degree at New York University under the supervision of Professor Peter Drucker. She will assume direction and coordination of the Fundamentals of Marketing course, the Marketing "core" course for all business students.

Assistant Professor Joseph Guiltinan. Guiltinan is coming to us from Indiana University. His major interests are channel management, marketing research, and government and business relationships.

Associate Professor Gordon Paul is replacing Professor Drew-Bear, who is retiring. He has been at Louisiana State University for the past four years. Professor Paul is a generalist and will teach Marketing Management at undergraduate and graduate levels.

Assistant Professor James Wiek is coming from Michigan State University. Professor Wiek's primary interests center in the area of Marketing Communications and the behavioral problems in channels of distribution.

Another major accomplishment of the Department during the year can best be described as increasing effective liaison between the academic and business communities. For example, a number of faculty members in the Department have completed a number of visits with principals of Stanley Home Products Company of Easthampton, Mass. There appear to be a number of research projects that will tie together individual faculty research and the problem solving efforts of Stanley Home. Further conversations and outlined proposals are planned as a result of this preliminary association.

The School and the Department have been invited to participate in the American Marketing Association Doctoral Consortium to be held at the University of North Carolina, September 3-6, 1969. We are pleased to receive this invitation, even though our relatively new doctoral program has not produced a Ph.D. graduate in Marketing. Nevertheless, the growing reputation of the School of Business Administration has prompted this invitation. The Department faculty has nominated Mr. Thomas Markinson to attend the Consortium.

The Behavioral Science Laboratory was used extensively for both teaching and research during this past year. Final construction details pertaining to two-way communication, video tape equipment, etc., were completed. We are pleased that Professor Fleming Hansen of the University of New Hampshire visited with us in order to learn about the establishment of such a laboratory at UNH. Although used most heavily by Marketing faculty, the laboratory is also being utilized by Professors Finch, Belovicz, and Singer of the Departments of Management, General Business and Finance, and Accounting, respectively. One equipment need remaining is a carpeted interior to allay static and noise picked up on the two-way communication system. In addition, the Laboratory should be equipped with two television set receivers for the replay of video tapes.

Faculty Activities

A number of faculty in the Department were productively active in their scholarly pursuits during the past year. These activities are highlighted below.

Research Projects

1. Professor Donald Frederick. (a) School of Business Administration Summer Research Grant for a project entitled "Statistical Bayesian Theory Models and Computational Procedure."

2. Professor Kent Monroe. (a) Graduate Research Council Grant for the project entitled "Buyers' Subjective Perceptions of Price: An Experimental Inquiry." (b) Research Grant-in-Aid from Consumer Research Institute for research effort on consumer perceptions of price. (c) Research proposal submitted to Consumer Research Institute for Experimental Research on Perceptions of Price (with M. Venkatesan). (d) "Applications of Psychophysical Measurement to Marketing Research" (e) Research on the Applications of the Lognormal Probability Distribution.

3. Professor M. Venkatesan. (a) School of Business Administration Summer Research Fellowship Grant for project entitled "A Model of Consumer Information Requirements." (b) Ford Foundation Fellow in the Workshop on Laboratory Methods in Management Science, University of California, Berkeley. (c) Research Grant obtained from the Consumer Research Institute (with Professor Monroe). (d) Research project (with Professor P. Worthing) "An Analysis of Foreign-Made Product Images." (e) Research project (with G. Albaum and J. Sheth) on the Diffusion Process of a New Household Product."

4. Professor Parker Worthing. (a) Faculty Research Grant proposal entitled "Explorations of Personality Variables as Bases for Market Segmentation." (b) Faculty Growth Grant project entitled "The Development, Implementation and Maintenance of Marketing Strategies (designed to increase the effectiveness of combined competitive manufacturers and independent distributorships through which they market their products). (c) Research project entitled "Analysis of Foreign-Made Product Images (with M. Venkatesan)" (d) Research project entitled "Personality Products, and Brands: An Exploration of Relationships" (with M. Venkatesan). (e) Research project entitled "An Investigation of Manipulative Abilities as Predictors of Success in Selected Patterns of Interpersonal Behavior" (with F. Finch). (f) Research project entitled "Contractor Firm Personnel's Perceptions of Marketing Effort in the Heavy Construction Equipment Industry."

<u>Publications</u> (completed and in process)

1. Professor Donald Frederick. (a) Three articles submitted and currently under review by <u>Management Science</u>. (b) Three chapters of a projected seven chapter book on Statistical Decision Theory now completed.

2. Bertil Liander. (a) "Die Provocation, Steiquender Daufkraft" (The Challenge of Increased Purchase Power") in "Moderner Market," Frankfurt, Germany, July/August 1968. (Published in two installments.) (b) "The Research Itch--Key to American Success." <u>AIDA</u>, Geneva, Switzerland, November, 1968. (<u>AIDA</u>: A publication of International Association of Food Distributors.) (c) "Channels of Distribution in Europe" Norges Grossisttldende, April, 1968, Oslo, Norway. (d) "Analisi Comparate Per II Marketing Internazionale" ("Comparative Analysis for International Marketing"), accepted for publication "L'Impresa,"

2. (Continued)
University of Jorino, Italy

3. Professor Kent Monroe. (a) "The Information Content of Price: A Preliminary Model of Buyer Response" submitted to Management Science. (b) "Managing a Graduate Teaching Group: Some Observations" submitted to Academy of Management Journal. (c) Marketing Systems -- textbook with Professor D. M. Slate for Holt, Rinehart & Winston Book Company. (d) Readings in Marketing Systems with D. M. Slate for Holt, Rinehart & Winston. (e) "The Concept of Price Limits and Psychophysical Measurement: A Laboratory Experiment" (selected for presentation and incorporation in the Proceedings of the American Marketing Association Conference in Cincinnati, August, 1969.)

4. Professor George Schwartz. (a) A Spanish edition of Development of Theory has been published by Southwestern Publishing Company. (b) Review of Perspectives in Marketing Theory (edited by Kernan and Sommers), Journal of Marketing, Vol. 33, No. 1, January, 1969. (c) Invited to be a major contributor on the subject of marketing in the Jefferson Encyclopedia.

5. Professor M. Venkatesan. (a) "Resistance to Persuasive Communication: An Examination of the Distraction Hypothesis," Journal of Personality and Social Psychology, Vol. 9, June 1968. (b) "Risk Reduction Processes and Repetitive Consumer Behavior," Journal of Marketing Research, Vol. 5, August, 1968, (with J. Sheth). (c) "An Experimental Study in Risk Reduction," American Marketing Association Proceedings No. 28, August 1968, (with J. Sheth). (d) "Psychology in Consumer Marketing" to appear in the Handbook of Modern Marketing to be published by McGraw-Hill Book Company in late 1969 or early 1970.

6. Professor Jack S. Wolf. (a) "SYMAP: Computer Graphics for Marketing Management" forthcoming in the August 1969 issue of the Journal of Marketing Research. (b) "Market Needs and Market Challenges" (with Wendell R. Smith.) (c) Original chapter entitled "Bayesian Approach to Marketing Research" to be included in Current Perspectives in Marketing Research, The Free Press, (edited by M. Venkatesan and R. Mittlestaedt).

Other Professional Activities

1. Professor Donald Frederick. (a) Conducted a one-week seminar in Tunisia in October 1968 on Marketing Management. Project sponsored by Agency for International Development and Tunisian National Institute of Productivity. (b) Review of manuscripts for the Applications Section of the Journal of the American Statistical Association.

2. Professor Kent Monroe. (a) Attended the Institute of Management Science Meeting (Marketing College) in New York, March 1969. (b) Continuing dialogue on hotel pricing with the Hotel Corporation of America (exploration of possible mutual research interests, (with M. Venkatesan). (c) Continuing dialogue on

2. (continued)
marketing research possibilities with Stanley Home Products (exploration of possible mutual research interests with M. Venkatesan, J. Wolf, P. Worthing.)

3. Professor M. Venkatesan. (a) Session Chairman: "Laboratory and Field Experimentation in Marketing," American Marketing Association, Educator's Conference, Denver, Colorado, August 1968. Presented a paper with J. Sheth at this AMA Meeting. (b) Discussant: Professional dialogue session. "Consumer Behavior Research: Where do we Stand Today?", at the Denver meeting of the American Marketing Association, August 1968. (c) Invited speaker for the Distinguished Lecture Series of the Consumer Behavior, Ohio State University, College of Administrative Science, March 1969.

4. Professor Jack S. Wolf. (a) Session Leader, for the National Beer Wholesalers Association "Wholesaler Orientation" Seminar, Chicago, Illinois, March, 1969. Paper presented during this meeting entitled "Sources of Conflict Between Beer Brewers and Wholesalers." (b) Invited participant to the Management Science in Marketing Workshop, University of Denver, August, 1968.

5. Professor Parker Worthing. (a) Invited participant for the Management in Science Workshop, University of Denver, August 1968.

APPENDIX E

CENTER FOR BUSINESS AND ECONOMIC RESEARCH: Professor Robert E. McGarrah, Director

The Center was established to serve the Faculty and the School of Business Administration by enhancing the quality and scope of their research, consultation, and continuing education projects or programs. The Center has endeavored to assist individuals and groups of SBA Faculty and students in

- developing new opportunities for professional contributions;
- preparing and promoting proposals;
- assisting in financing proposed projects;
- providing staff, equipment, supplies, information, stenographic, and accounting services for Faculty engaged in research.

This report summarizes problems and progress toward these objectives during the period July, 1968 - June 1969; it also describes plans for the near and long-term future. First is a general discussion, then some specifics.

Focus for the Center's Efforts

In September 1968 the Center proposed that urban and regional development be considered and adopted as a primary (but not exclusive) focus for SBA Faculty research, consultation and continuing education activities. The underlying assumption was (and is) that some kind of institutional focus is preferable to none.

Graduate-Faculty Seminars on Urban & Regional Development

These weekly seminars were one means exerted to develop field-work opportunities for members. Although attendance was sporadic, the Center takes pride in the fact that eighteen SBA Faculty and Graduates Students have developed and are now implementing Program BEST (Business Employment Skills Training) as a direct result of these seminars.

Members of these seminars include interested and qualified representatives from other divisions of the University and Amherst, Smith, Holyoke and Hampshire College.

The experience with BEST and seeds planted at other sessions indicate that these seminars should be continued next year. We shall continue "to experiment" with ways to improve the quality and scope of participants and speakers at weekly sessions.

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Development of Sponsorship for Center's Projects and Programs

A second means for fulfilling purposes of the Center was to develop field contracts with propective sponsors facing problems which the Center could help to solve. Accordingly, we have contacted representatives of local, state, and national (or Federal) organizations of business, industry and government; also the Ford Foundation, Urban Institute, Brookings Institution, National League of Cities.

Each prospective project or program under consideration has the following kinds of opportunities:

- work related to a combination of concepts, tools and techniques of planning, organizing measurement and control (qualitative and quantitative; descriptive and normative; technical, financial, legal, and operational functions of economic and political institutions)
- teamwork by Faculty and students having various talents, interests, desires to engage real problems.
- complementarity between practical, service work in the field and academic work on the campus, via research, writing and teaching functions.
- visibility, revenues, incremental compensation for those Faculty and students engaging clientele or sponsors of the project or program.

The process for converting these opportunities to realities requires close cooperation by the Center, Faculty, and Students, and Administration. To the extent that these prospective projects are perceived more as risks than as opportunities for Faculty and students to develop themselves and the School, the Center will make limited progress.

Business Employment Skills Training (BEST) Program for SAC/CEP Staff, Greater Springfield.

Under leadership of Associate Professor Steven Michael, this program is being developed, implemented, and will be evaluated by Professors Harry Allan, Meyer Belovicz, Elliott Carlisle, Gordon Chen, Frederic Finch, Robert Rivers, George Simmons, Jack Wolf, Max Wortman, and Stanley Young; Dean Smith, Associate Director Liander and Assistant Deans Johnson and Pion; Ph.D candidates Kahalas, Farrar, and Carbine.

Funds to operate this program have been requested of the Ford Foundation, Small Business Administration, Office of Economic Opportunity, Department of Labor, in the amount of about $30,000. If, as seems likely, the prospective Sponsor(s) desires BEST to become a fully-developed, prototype program for nationwide use, then funding in the

amount of $150,000 has been requested.

By launching the BEST Program on a voluntary basis, Center has enhanced prospects for funds not only for BEST, but other projects as well.

Three Studies for Lower Pioneer Valley Regional Planning Commission

Professors Robert Rivers, George Burak, and Robert Plattner, and Ph.D candidate Rodney Smith and one other graduate student yet to be selected are organizing the work of these three studies. In addition the client has hired two SBA students and a professional to do liaison work with the Center's Project group. In effect, the work of these studies is being planned organized, and conducted by a team of seven Center, SBA professionals.

The studies will be funded in the amount of $13,600. Expenses have been budgeted so that funds can be made available to compensate members of the project-team who undertake doctoral or post-doctoral work stemming from their efforts on these studies.

These studies are of concern to the Executive Director, New England Regional Commission, the Director, Executive Office for Coordinating Plans and Programs of the Commonwealth, and the Director of business and industrial associations, with whom the Center has contacts. Thus, the Center's services for Lower Pioneer Valley Regional Planning Commission can lead to more and larger-scale projects for business and government.

Projects for Springfield Model Cities Agency

The Center is likely to be asked to provide consultation services to assist in organizing and startup operations of an Economic Development corporation (EDC) in the expanded, Model City Area of Springfield. The Model City Agency's approved budget for these services is $30,000. This EDC is to be a counterpart of the Joint Civic Agencies, with which the Center has prospects of serving.

The Center has been assured of favorable consideration of its proposal to design and install a management information system for staff of the Model Cities Agency. The budget request for such services was $25,000.

The Center's initiatives and performances in the BEST Program are substantial reasons why contracts for these Model Cities Projects are likely to be awarded to the Center.

Support Services for Faculty and Graduate Student Research

The total manpower available to the Center and devoted to objectives cited at the beginning of this report amounted to about 42 man-months. Of this, about 40 percent was devoted to services in support of research projects initiated and implemented by SBA Faculty. These services consisted mainly of: typing, reproducing, collating research manuscripts or working papers; processing, recording vouchers of expenses incurred by Faculty for supplies, equipment, and student assistance; reproducing and distributing copies of Faculty members' research proposals for examination and decision by the Faculty Advisory Committee on Summer, SBA Research Grants; administering meetings, typing, and distributing report of the Faculty Committee on Research and Continuing Education Program Planning.

To improve these services the Center, the Research Advisory Committee, and the Administrative Committee adopted policies in March, '69; these policies were proposed for adoption by the SBA Faculty at its final meeting, May 16th:

(1) Each proposal for a project to be financed from SBA, University or "outside" sources should be submitted through the Center for its information and coordination.

(2) Copies of interim (progress) and final reports or manuscripts for publication should be deposited in the Center. (The Center may provide assistance (e.g. stenographic, editorial services of "critics" or "referees," etc.)if desired, before such documents are submitted to journals or sponsors.)

(3) The Center will keep Faculty and Graduate Students informed on matters concerning research, consultation, or continuing education projects or programs of possible interest.

The intention of these policies is to provide more explicit information enabling the Center to serve Faculty and Students more effectively on a number of problems common to most research projects, for examples:

1. Funding

   - search for sponsors or contracting clientele
   - budget preparation and coordination with University Treasurer's staff
   - establishment of accounts and expense vouchering procedures.

2. Operational

   - editing of proposals, for contract grant agreements, reports.

- professional, clerical, or technical staff support
- publication and distribution of monographs or reports
- coordination of efforts on two or more projects concerned with same or similar concepts, problems, or techniques.

Future Plans

The Center has presented a plan, program, and budget to improve the quality and scope of its services. Highlights:

- expand full-time professional staff to at least six
- invest in "startup efforts" for five years, after which, the Center, in serving its goal of education in "sciences" of administration, either would be disbanded, or would be a self-financing, revenue generating subsidiary of the University.

Appendix F

Report of the Facilities

Planning Committee

The continued growth of the School of Business Administration, at both the undergraduate and graduate levels, will make necessary an expansion of the physical plant to accommodate future student and staff influx. If present trends continue our present facilities will be at capacity utilization by 1972. After that time further cannibalization of classrooms into office space will necessitate visitations on the part of the faculty to other campus buildings for classroom space. The need for additional facilities is clear, and is becoming critical and imperative.

This report concludes the first stage in the process toward eventual expansion of the School of Business Administration. Succeeding stages will require a determination of the specific type and nature of facilities that will be needed, such as reading room or library, computer facilities, administrative space, Center for Business Research, number and size of classrooms, seminar rooms, student facilities, equipment centers, etc. The Committee recommends that it receive an allocation of travel funds to authorize it to visit facilities completed recently at other institutions in order that the School of Business Administration have the benefit of the most recent ideas for business education. The timetable for the succeeding stages of this program will depend upon the University administration for a priority assignment in the building schedule!

It is recommended that a standing committee be appointed to continue the development of plans and ideas to be incorporated into the new facility. Since the present committee has done the initial spade work and has familiarized itself with the needs and objectives of the School, it is recommended that the present group be the standing committee to further the facilities program. This does not preclude additions or deletions to the present group. In fact, it may be desirable to have student representation on the Committee, one graduate and one undergraduate to be nominated by Beta Gamma Sigma.

SCHOOL OF BUSINESS ADMINISTRATION

PROJECTION OF GROWTH AND SPACE NEEDS TO 1980

HISTORY OF THE SCHOOL

The School of Business Administration was organized in 1947 and was placed under the administration of the Head of the Department of Economics who acted as Dean of the School. In February 1951, the School was separated from the Department of Economics and a full time Dean was appointed by the President.

At the time of organization there were no departments in the School. Only general areas of interest were recognized. In 1959 departments were established as follows: Accounting, General Business and Finance, Management and Marketing. The Center for Business Research was added in 1967.

GROWTH PATTERN

In 1947, there were about 3,000 students enrolled at the University. The School of Business Administration grew rapidly. By 1952, it was necessary to relocate in Draper Hall which was renovated for the School. The continued fast rate of growth made it necessary to plan for substantially larger facilities. A new structure was built and occupied in September 1964. It provided space for 48 faculty and 30 classrooms. As of this date, there are 56 faculty and 24 classrooms. It has been necessary to convert six classrooms to provide needed faculty office space. Although there is at present a temporary surplus, this situation is not expected to last more than one year.

SBA AND UNIVERSITY TRENDS

The number of faculty and the square footage of building space required is determined by the number of Full Time Equivalent students in the School. The rate of growth for the University and for the School of Business Administration is shown in Exhibit I, Student Population Analysis. Figures from 1962 through 1969 are actual numbers of Full Time Equivalents. Prior to 1968, the School had no Ph.D. candidates, only MBA's. After 1967, the MBA's in the Pittsfield Program were no longer included in the totals.

The relative youth of the School of Business Administration in comparison with those at other Universities indicates that it is in for a period of rapid growth. At present about five percent of the University FTE's are business majors, and it is not unreasonable to expect that it should reach 15 percent of this number. Information from the American Association of Collegiate Schools of Business indicates from a study to be released shortly that approximately 13.4 percent of the total institutional enrollment is in the area of business administration, and that this figure should remain stable over the next four years with some selected increases in some institutions and some selected decreases in others. The location of the University

EXHIBIT I

Student Population Analysis

University					SBA (FTE's)			
Undergraduate	Graduate		Total	Year	Undergraduate[1]	Graduate		Total
6,250	975		7,225	1962	273	41		314
7,054	1,303		8,357	1963	260	42		302
8,167	1,846		10,013	1964	300e	60e		360e
9,103	2,240		11,343	1965	356	81		437
10,621	2,514		13,135	1966	431	91		522
11,784	2,855		14,619	1967	495	87		582
	Masters	Ph.D.				Masters	Ph.D.	
13,338	1,658	854	15,850	1968	617	64	16	697
14,430	1,880	1,040	17,350	1969	725	77	21	823
15,470	2,085	1,295	18,850	1970	821	90	29	940
16,460	2,240	1,650	20,350	1971	936	101	39	1,076
17,400	2,390	1,060	21,850	1972	1,067	113	50	1,230
18,290	2,530	2,550	23,350	1973	1,216	125	62	1,403
19,100	2,650	3,100	24,850	1974	1,386	137	72	1,595
19,500	2,755	3,970	26,225	1975	1,580	150	85	1,815
19,750	2,825	4,575	27,150	1976	1,800	162	98	2,060
19,850	2,880	5,270	28,000	1977	2,053	174	110	2,337
19,910	2,915	5,825	28,650	1978	2,340	187	120	2,647
19,960	2,960	6,480	29,400	1979	2,668	200	128	2,996
20,000	3,000	7,000	30,000	1980	3,042	213	135	3,390

Head Counts 1962 - 1967
FTE's 1968 - 1980

FTE's 1962 - 1980

e = Estimated

FTE = Full Time Equivalent

An FTE is derived by taking the number of course registrations in SBA divided by 5. This is equating a normal course load of 5 courses per student who would be taking all of his courses in SBA.

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[1] Assumes average rate of growth of 14% per year with SBA having about 15% of the University FTE registrations by 1980.

of Massachusetts at Amherst in the midst of the nation's business and industrial area makes it reasonable and possible to expect that by 1980 15 percent of the University's FTE's will be in business administration. The SBA graduate program will tend to show increasing strength in terms of MBA candidates, but the Ph.D.'s will tend to level off and even decline slightly in relation to the total University Ph.D.'s.

It is of interest to note the proportion of Community and Junior college students entering the University who elect business administration as their major. (See Exhibit II.) Although statistics are limited, it does indicate that the School is now receiving about 17 percent from this source. Another fact of interest is the internal student migration within the University. In the class of 1968, 87 students changed their major to business administration. According to the Admissions Office the School of Business Administration leads the campus in terms of total in-migrations.

SPACE AND FACULTY NEEDS

Space and faculty needs are based upon the total number of FTE's expected in the period 1970 to 1980. These projections are presented in Exhibit III. From this it can be seen that the School will have reached and exceeded the capacity of our present facility by 1972; by 1975, we will need a little over 50 percent more space than we have at present; by 1980, the total space requirements will be 169,500 square feet, or 109,000 more than we now have.

Since the present building is out of balance in terms of classrooms versus offices, it is proposed that the new facility be long on offices and short on classrooms in order to bring the entire facility back into balance. When the new wing becomes available, it is proposed to restore to classrooms those which have been converted into offices, with the exception of the Statistics Labs 200 and 201 which will continue as permanent office space.

The foregoing data does not include present and future interdepartmental programs in which the School of Business Administration does or may participate, such as:

Industrial Engineering
Forestry Management
Nursing Administration
Landscape Architecture
Educational Administration
Food Management, etc.

One should consider also the service nature of SBA courses as electives to the rest of the University. As course offerings expand a substantial number of students from other disciplines find it advantageous and desirable to enroll in SBA courses.

The School of Business Administration is rapidly increasing its contacts with the business community of Southern New England. It is in the process of preparing special programs to meet the developing needs of the area. Hence, proper and adequate facilities will be necessary to do this job properly.

EXHIBIT II

University Acceptances From
Junior and Community Colleges

YEAR	TOTAL ACCEPTED	NUMBER TO SBA
1963	N.A.	7
1964	N.A.	13
1965	N.A.	30
1966	353	55
1967	413	86
1968	440	71
1969	500e	85e

Internal Student Migration - Class of 1968
(Changes of majors within University)
Net to SBA 77 men
10 women

SBA leads the campus in total migrations
(Statistics available only for class of 1968)

Source: Admissions Office, University of Massachusetts.

EXHIBIT III

SBA PERCENT OF UNIVERSITY FTE's

Year	Undergraduates	MBA's	Ph.D's
1969	5.0%	3.8%	1.8%
1975	8.1	5.5	2.1
1980	15.0	7.1	1.9

Projection of SBA
Faculty and Space Needs

Year	Total FTE's	Faculty Needs	Classroom Needs	Square Footage Required @ .50 Square Feet/FTE
1969	823	55	14	41,150 square feet
1970	940	63	16	47,000 " "
1971	1,076	72	18	53,800 " "
1972	1,230	82	21	61,500 present capacity reached
1973	1,403	94	24	70,150 " " "
1974	1,595	107	27	79,750 " " "
1975	1,815	121	30	90,750 " " "
1976	2,060	137	34	103,000 " " "
1977	2,337	156	39	116,850 " " "
1978	2,647	176	44	132,350 " " "
1979	2,996	200	50	149,800 " " "
1980	3,390	226	57	169,500 " " "
			Less area of present building	60,000 square feet
			Additional space needed	109,500 square feet

PROPOSAL

In order to be able to meet the growing needs for business education and community service in the most efficient manner, an additional 90,000 square feet of space will be required by 1980. It would be of much advantage to the School to have this facility included into the building schedule as soon as possible, because SBA will face critical problems after 1972. It is suggested that a new facility of four or five levels be constructed to form an ell extending eastward from the north end of the present building. Clearance requirements may necessitate acquisition of Phi Sigma and Theta Chi fraternity houses along North Pleasant Street.

If the new building should become available on or before 1975, the space not required for SBA purposes would be available to house overflow from Administration, or to serve the needs of some other disciplines needing space.

The present location has advantages that may not be available elsewhere. It is at the South entrance to the campus, easily accessible to business, government, and other visitors who come frequently to the School. Hence, the School prefers its present location, unless a more suitable one becomes available.

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1968-69
SCHOOL OF EDUCATION
UNIVERSITY OF MASSACHUSETTS
Dwight W. Allen, Dean

ANNUAL REPORT

1968-69

SCHOOL OF EDUCATION

UNIVERSITY OF MASSACHUSETTS

Dwight W. Allen, Dean

C O N T E N T S

Forwarding Letter to President Lederle

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The Commonwealth of Massachusetts
University of Massachusetts
Amherst 01002

SCHOOL OF EDUCATION

August 19, 1969

President John W. Lederle
Whitmore Administration Building
University of Massachusetts
Amherst, Massachusetts

Dear President Lederle:

I am pleased to submit the attached 1968-69 Annual Report for the School of Education.

This last year was one of significant change for the School of Education. Our year of planning resulted in not only new programs, but also a new sense of commitment in the School of Education. Our task in the coming year is to match our actions to that sense of commitment.

Sincerely,

Dwight W. Allen
Dean

DWA/cag

ANNUAL REPORT

1968-69

SCHOOL OF EDUCATION

UNIVERSITY OF MASSACHUSETTS

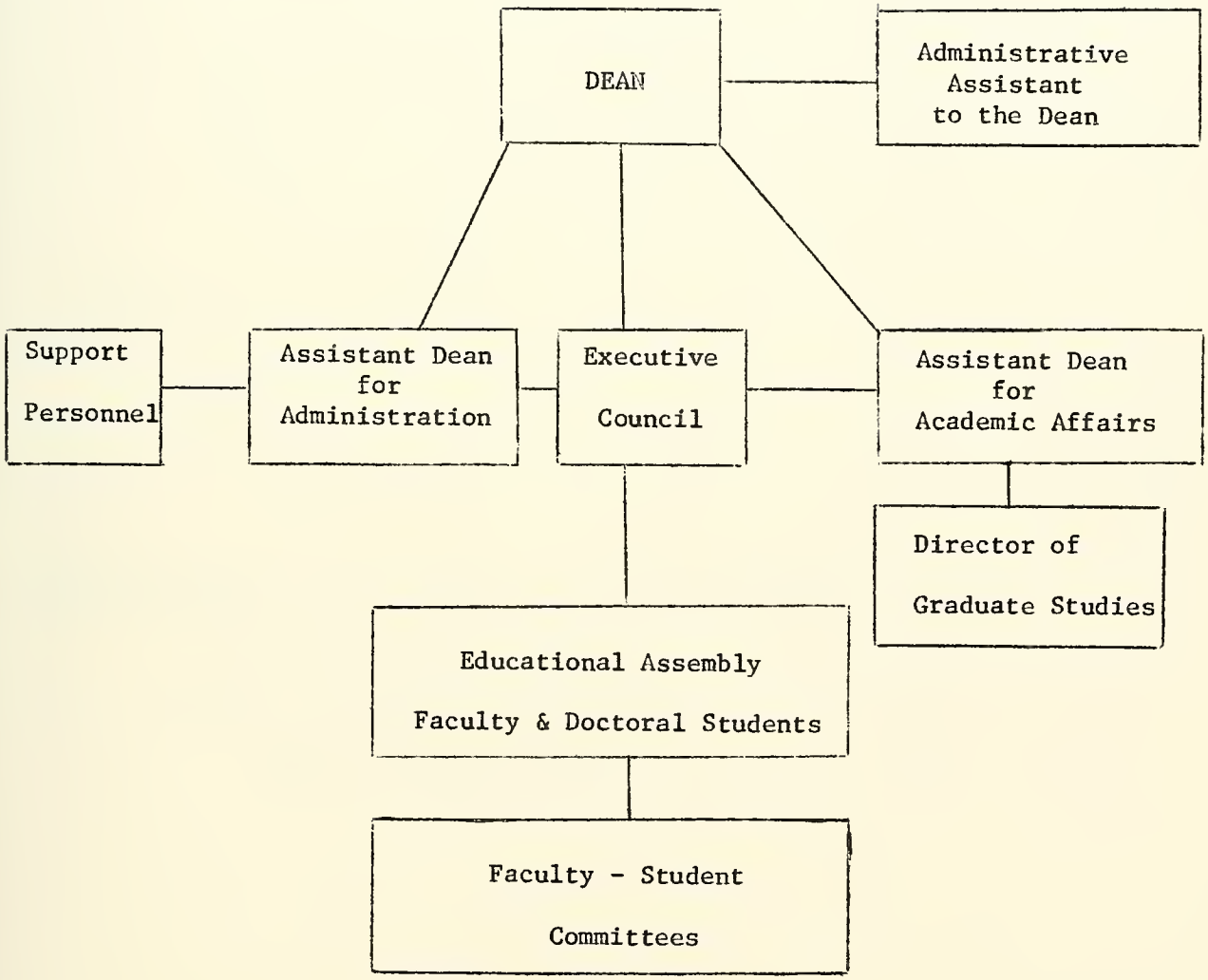
Appropriations--Operational Budget

		Actual 1966-67	Actual 1967-68	Actual 1968-69
03	Services, Non-Employee	$36,545	$56,313	$117,200
10	Travel	6,302	7,908	11,000
11	Advertising & Printing	120		
12	Maintenance	1,922	1,083	1,700
13	Special Supplies	9,809	11,765	18,000
14	Office Expense	3,786	4,454	3,000
14.1	Telephone	3,918	9,146	10,000
16	Rentals	73		10,000
	TOTAL	$63,341	$91,647	$205,900

Personnel	September 1966	September 1967	September 1968
Faculty and Administration			
Dean	1	1	1
Assistant Dean	1		2
Professor	3	3	7
Associate Professor	10	11	15
Assistant Professor	11 1/2	10 1/2	16 1/2
Lecturer	1	1	7
Instructor	5 1/3	6 1/3	4 1/3
Visiting Lecturer	2	2	1
Position Vacancy	3	3	1
Total	37 5/6	37 5/6	54 5/6

Other Personnel	September 1966	September 1967	September 1968
Electronic Technicians	2	2	2
Technical Assistant	1	1	1
Principal Clerk	1	1	2
Senior Clerk and Stenographer	1	1	1
Junior Clerk and Stenographer	8	8	8
Junior Clerk and Typist	—	—	1
Total	13	13	15

Organizational Chart (1968-69)



Students or Clientele Served

	September 1966	September 1967	September 1968
Undergraduate Majors	837	919	998
Enrollment (1st semester)			
Undergraduate	1286	2005	2101
Graduate	791	761	946
Total Enrollment	2077	2077	3047
Enrollment (2nd semester)			
Undergraduate			4224
Graduate			1656
Total Enrollment			5880

Total Enrollment 1968-69 academic year (Fall and Spring semesters)

Fall Undergraduate and Graduate	3047
Spring Undergraduate and Graduate	5880
1968-69 Total Enrollment	8927

ANNUAL REPORT

Overview

The 1968-69 Planning Year at the School of Education has been a major effort in a number of areas. We have continued and expanded the School's existing programs. We have reviewed and reorganized our grading procedures. We have designed over 150 new courses. We have restructured the School around eleven educational centers, thus identifying and focussing our major concerns. We have expanded the definition of faculty to include all full-time graduate students, and have involved virtually our entire faculty in the short- and long-range planning of the School's future programs. We have moved beyond our campus locale to participate in and organize programs in the neighboring area and around the country.

Given the mandate to change which Dean Allen brought with him to the School, the past year's rapid pace has served strategically to develop a feeling of momentum within the School and has thus readied it for innovation, experimentation and change. It has been our intention to create an institution which can live as a dynamic organism capable of self-correction, for we can hardly hope to contribute solutions to the larger educational system beyond us if we cannot achieve such remedies for ourselves. While we recognize that it is too early for us to tell precisely which of our ventures will succeed or what new programs will be required, what has become clear is the complexity of the task we have undertaken and the reciprocal complexity of response and flexibility of attitude which such a challenge demands. We believe that during the

Planning Year just completed we have begun to move toward the creation of a self-renewing, instrumental School of Education that will wear well in a coming decade which calls already for a new sense of purpose in American education.

Major Accomplishments

Our primary objective during the past year has been to draw up workable action plans by which we might order our priorities and marshall our resources. Since it is our belief that our primary resource is human -- intelligence and skill focussed by personal commitment -- a large part of our planning has been aimed towards creating organizational patterns which will enhance rather than inhibit individual growth and initiative. It is, likewise, our belief that the first priority of our school is also human: the need for personal development which is the raison d'etre of any educational institution. Fundamentally, then, our task during the Planning Year just completed has been to organize human resources to meet human needs.

The mix and quality of the 150 people of the instructional staff has been crucial to the success of our first planning year. The range of educational challenges is so broad and varied that they can effectively be met only by the cooperative efforts of people of highly diverse skills, interests, and experience. As might be expected, many of our people have been trained and have gained experience as professional educators. Equally important, however, is the significant number of our people who bring to our planning the unique perspectives of other fields. There are veterans of the Peace Corps and of Vista; an opera singer and a folk singer; draft resisters and members of the military; experienced classroom teachers, principals and superintendents as well as former school dropouts; experienced consultants and fledgling students; a union organizer and the male dean of girls at a private boarding school. Included among

participants are also a former county government administrator; an executive director of one of the country's most successful ghetto community centers; a co-founder of a college in the 1930's; a historian active in politics, student-college relationships and ghetto problems; a former director of Peace Corps training with degrees in law, political science and Hebrew literature; a certified psychologist; a musician who is also a specialist in Jungian psychology and social anthropology; and a former assistant to both the President of Ohio State University and the Deputy Commissioner of Education. One indication of the seriousness with which solutions to social problems are being sought at the School of Education is the fact that almost one-fourth of all planning doctoral students are black.

Such juxtaposition of diverse human beings has been planned to generate excitement and counterpoint, to encourage perspective and freshness in creating, implementing, testing, and modifying new models for all aspects and at all levels of the educational process in America.

The problem of welding a group as large and diverse as this one into a cohesive, fully functioning whole is a formidable one--indeed, a process that could take years under normal operating conditions. To hasten the process the entire group flew to Colorado in September for a week-long retreat which included organizational meetings, presentations on a broad range of topics, and experimentation in group productivity and creativity under the direction of a consultant from Synectics, Inc. of Cambridge, Mass. The week brought significant structure and preliminary tooling for the planning year, and more important, laid a firm groundwork for the deep and wide-ranging interpersonal relationship which have led to a

substantial cohesion of purpose among the diversity of personnel represented in the school.

In an attempt to challenge both institutional restraints and traditional assumptions about education, the school has consciously created an atmosphere of freedom for faculty and doctoral candidates. During the year, staff members have been encouraged to pursue individual interests, to negotiate relationships with other staff members, to teach courses as they think best, and to offer courses they have created. The outgrowth of this freedom has been significant achievement, sometimes unexpected, but often rewarding. For instance:

- thirty-five planning committees developing courses and experiences ranging from the most traditional to those at the forefront of innovation, in areas such as urban education, humanistic education, leadership development, aesthetics, media, technology, systems, and computers, international education, human relations, and student-centered learning, as well as programs more conventional to a school of education.
- two educational "marathons" which included more than 200 events, seminars, films, demonstration exercises, lectures, and activities on new departures in education. The marathons were attended by several thousand undergraduates, teachers, and school administrators from all over the Eastern seaboard.
- a task force of five graduate students working three days a week in the inner-city schools of the Hartford school system and also supervising a live-in experience in Hartford for selected undergraduates.

- an 18-man team that documented on audio and video tape a critical week in the New York City school controversy.
- the establishment of off-campus training centers for UMass students in Hartford, Springfield, Temple City (California), and elsewhere.
- significant experiments in the supervision of apprentice teachers, and new models for teacher internships.
- financial support from a number of foundations and different departments of the state and federal governments. In addition, some large private foundations have expressed interest in substantial support of our efforts. The school presently has fifteen proposals totalling over six million dollars before several federal agencies.
- development of a computerized simulation model for evaluating the new School of Education programs; this model will aid in the planning process and permit maximum use of staff, time, and physical facilities for our new programs.
- the specific training, at their request, of certain parents and teachers from the Ocean Hill-Brownsville district of New York.
- an extensive program of summer workshops for inservice training school personnel from around the country.
- a group of student teachers working in the Parkway Project in Philadelphia -- "the school without walls."
- a Model Elementary Teacher Education Program, one of nine chosen by the U.S. Office of Education from over 90 proposals from universities throughout the country.

- working relationships with schools in Springfield, Hartford, Worcester, Temple City (California), Philadelphia, New York City, and suburban Boston, as well as towns throughout western Massachusetts.
- a course in race relations which represents a new approach to dealing with that problem on campuses.
- a dramatic upsurge in the number of applications both for admission to graduate study and for appointment to the faculty.
- a doubling of enrollment between Fall and Spring semesters.
- the development of a kindergarten through 12th grade teacher education program, an approach which offers substantial alternatives to the traditional elementary-secondary dichotomy in teacher education.

Any institution seriously committed to fostering innovation must give close attention to its own organizational structures, for if the values of creativity, growth, and experimentation cannot be institutionalized, it is almost inevitable that such values will wither and die under the constricting and stifling effects of traditional organizational structures. The cycle of youth, middle age, senility, and death is a very real one in organizational life.

Our studies in organizational structures have made it very clear that the kind of organization we are seeking does not exist in institutions of any size in this country. We have found parts of a blueprint in the works of organizational theorists such as Jay W. Forrester, Chris Argyris,

and Douglas McGregor, but as far as the practical realization of their theories is concerned, we are in uncharted territory.

The guiding principle of the kind of structure we are seeking is that our organization must be genuinely democratic and human with a minimum of controls on personal action and maximum support for personal risk-taking. During this first planning year, the Executive Committee has devoted much of its time to study, discussion and experimentation in an attempt to bring these principles into organizational reality.

A major outcome of the planning is an interim constitution which creates an Education Assembly as the basic policy making body of the School. This Assembly is made up of the faculty, all doctoral students in full-time residence, representatives from other departments of the University, approximately 25 undergraduate and ten graduate fellows. All faculty members, doctoral students, and fellows are considered members of the School's instructional staff. Meetings of the Assembly are completely open and each member of the Assembly has equal voting rights.

The constitution also creates a Graduate Faculty Assembly which supervises graduate admissions and degrees. This group consists of all instructional staff members who have been appointed to the Graduate Faculty of the university plus one-third of that number elected by and from the other members of the Education Assembly.

The Executive Council of the Education Assembly acts as a clearing house and recommending group for policies, programs, procedures and all other decisions which, under the constitution, come before the Assembly. The Executive Council has nine members, six elected by the Assembly and three appointed by the Dean.

We view this recently adopted constitution as a mechanism for the development of the organization we are seeking and expect this organization to evolve out of the decisions of the Assembly in the months to come.

In surveying the task before us, we have had to view ourselves as an instrument to be used, rather than simply as an institution to be perpetuated. Thus, many of what we feel to be the major accomplishments of our efforts during the past year involve a reorganization of our energies so as to increase our instrumentality in meeting the varied problems of American education. In arranging our resources we have attempted to move beyond the standard, content-oriented, departmental structure, and have instead organized our personnel along a series of inter-disciplinary perspectives, many of which bear on common problems and challenges.

Thus, eleven educational centers have been established to work in important areas of concern within the School of Education. These centers will have more autonomy to set their own requirements (in addition to School requirements) than do individual programs, and they will differ from conventional departments in several respects: faculty will not be permanently attached to one center but will often be on the staffs of several and will be able to shift easily; centers are less rigid organizations of resources and can thus be created or discontinued with more facility than departments; and centers will interface in both staffing and programs. To insure feedback from outside perspectives, each center in the School of Education will have a national visiting committee of experts available in its area of concern.

In general, these centers identify a deliberate focus of the School and imply predictable and sufficient levels of financial and personnel

resources to maintain continuous and major programs. Typically, the staff of a center will engage in teaching, research and service; will offer degree programs at both graduate and undergraduate levels, and will provide consultative services to other groups in the School and in its field. Some programs now in experimental or pilot stages -- such as Higher Education, Vocational and Technical Education, and Early Childhood Education -- are likely to emerge as centers in the near future.

The eleven centers created during the past year include the following:

The Center for Aesthetics in Education
The Center for Counselor Education
The Center for Educational Research
The Center for Humanistic Education
The Center for International Education
The Center for Leadership in Educational Administration
The Center for the Study of Educational Innovation
The Center for Educational Media and Technology
The Center for Foundations of Education
The Center for Urban Education
The Center for Teacher Education

THE CENTER FOR AESTHETICS IN EDUCATION

The Center for Aesthetics in Education is engaged in exploring and developing the interplay between cognitive and affective responses. Hopefully, the Center will be able to create new curricular models using such an integrated educational approach. Introductory courses and practica are offered in three basic areas: problem solving through a variety of cognitive and affective experiences; reading and discussion of theories and philosophies of aesthetics in education, and the use of artistic media to illustrate basic concepts in the sciences and humanities.

THE CENTER FOR COUNSELOR EDUCATION

The Center for Counselor Education will provide opportunities in various areas: advanced research in human behavior to meet the critical needs in schools; training at both the school service level (Masters degree) and the leadership level in school districts and universities (Doctoral and CAGS programs), and service in the development, expansion and redefinition of school guidance programs in the Commonwealth. Although the main thrust of the program in the development of counselors, the Center recognizes its responsibilities in developing para-professionals, differentiated staffing patterns and specialization. The Center also will develop close ties with the Counseling Center in the University and with guidance programs in nearby school systems to provide laboratory experiences for candidates and a realistic perspective for their training.

THE CENTER FOR EDUCATIONAL RESEARCH

The Center for Educational Research has as its primary task the establishment of an environment conducive to high-quality educational research. This environment will include pursuit of research and scholarship both in the field and at the University, through a differentiated team approach. The Center will not only seek to serve research needs within the community, but will also recruit and train educational personnel interested in applying to behavioral science methods relevant to educational problems, thus furthering our knowledge of the behavioral science processes themselves. The Center maintains the belief that the empirical study of educational processes is the single most important method for the advancement of education, in terms of both

developing new knowledge and providing systematic analyses of current practices.

THE CENTER FOR HUMANISTIC EDUCATION

The Center for Humanistic Education makes the assumption that in order for a student to make the best and most well-informed choices, a full understanding of why and how his feelings affect his behavior and decisions is of paramount importance to him. Based upon this assumption, the Center asks the student to direct his energies to the study and comprehension of his own affective processes. The Center's Humanistic Curriculum Laboratory will conduct research in affective-humanistic techniques and will experiment in the adaptation of these techniques to classroom curricula at all levels. The Center now offers programs in strength training for urban school teachers, study of behavioral techniques and a practicum in Humanistic Curriculum Development. The Center will serve undergraduate and graduate students.

THE CENTER FOR INTERNATIONAL EDUCATION

Programs offered by the Center for International Education will combine work in education, social sciences, humanities and the sciences. A significant amount of each student's course of study will be spent overseas or in other cross-cultural situations. The Center's faculty and students will be jointly involved in researching, planning and implementing a variety of governmental and private international programs. The Center will offer the Bachelor's, Master's and Doctoral degrees for American and foreign students. The Center's programs are designed to foster its

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[illegible]

[illegible] the conviction that in [illegible] well-informed choices, [illegible] different [illegible] survival [illegible] [illegible] [illegible]

students' understanding of other national cultures and our own national subcultures, prepare its students for leadership roles in the international affairs of our nation and for work in the development of other nations via the medium of education. Hopefully, these programs will have a multiplier effect throughout the educational system of the United States and in various institutions abroad, and will attract to the Center persons of considerable experience and influence in international affairs.

THE CENTER FOR LEADERSHIP IN EDUCATIONAL ADMINISTRATION

The Center for Leadership in Educational Administration is designed to accommodate the needs and interests of people already actively engaged as administrators, some experienced people who will come as full-time students and some who will come from studies elsewhere. It is primarily a graduate program, but will admit undergraduates on an individual basis. Candidates will be provided courses and practica not available at the Center. Teaching, practicum and internship experiences will be drawn from public and non-public schools and from the Five-College Consortium. It is expected that much of the Center's work will be offered by the School of Education through the Center for the Study of Educational Innovation, the Center for International Education and the Center for Urban Education.

THE CENTER FOR THE STUDY OF EDUCATIONAL INNOVATION

The Center for the Study of Educational Innovation was created to inquire systematically into processes of educational change and to bring about school improvement. To this end, CSEI has developed three

interdependent action units: one unit works on creating and improving educational practices; staff members in this unit are not only working toward improving those current practices which do not seem to be fulfilling their potential, but they are also anticipating future needs and moving toward feasible ways of meeting them; another unit works in researching and evaluating current and experimental practices, as well as on strategies for bringing about useful change; the third unit is developing ways for schools in Massachusetts and elsewhere to take advantage of the available knowledge about educational innovation. Institutes and workshops will be held to increase understanding of the nature of particular innovations and of the basic processes and consequences of change.

THE CENTER FOR EDUCATIONAL MEDIA AND TECHNOLOGY

The Center for Educational Media and Technology offers learning, service and research opportunities in conventional audio-visual media and library areas as well as in the newer areas of television, film and systems technology. The Center's programs are inter-disciplinary in nature and will use the facilities of the University to implement its courses of study. The programs are designed to: provide an environment in which individuals can learn about the characteristics, capabilities, applications and implications of media, technology and systems; conduct research and evaluation activities in media and systems; serve the surrounding educational community by making available for its use the appropriate hardware, software and media techniques; encourage the incorporation of appropriate media, technology and systems into a broader range of educational programs than is now the case.

THE CENTER FOR FOUNDATIONS OF EDUCATION

The Center for Foundations of Education serves several functions in the School of Education. In the preparation of teachers, the study of the history, philosophy and sociology of education, the Center provides students at all levels with a substantial background of interpretive knowledge about the processes and institutions of education. Study within the Center can provide a longer time perspective to the prospective teacher and can bring information to bear upon educational problems that sets them in their proper contexts. In service to the entire School of Education, persons in the Center are equipped to analyze educational problems, ideas and ideologies from disciplinary points of view not usually represented in other areas of the School. At the doctoral level, the Center provides persons trained to teach educational foundations at other institutions of higher learning.

THE CENTER FOR URBAN EDUCATION

The Center for Urban Education intends to establish long-range planning, research and training programs focussing on the development of new models for education in urban areas. Four areas of concentration are now available to students in the Center: community relations, school structure, curriculum, and teacher training. A primary goal of the Center is the training of experts in urban community relations. With community support, structural and curricular changes can be introduced more effectively into the schools. Integral with the goal is the training of teachers who can cope with the challenges of urban realities. Teachers in training will be offered live-in experiences in the city, community involvement, and varied classroom activities in city schools. Simultaneously,

personnel from the Center will help schools to develop teacher in-service training programs. The Center hopes to have an impact on the total community by also providing education career ladders for the employment of paraprofessionals from the community.

THE CENTER FOR TEACHER EDUCATION

The Center for Teacher Education represents a fresh approach to teacher training, based on the premise that an early introduction to students through such devices as strength-training, micro-teaching, and direct classroom participation, will focus the student on his particular interests and identified needs. The Center's purposes are: to provide training for future teachers, K-12; to design, implement and evaluate programs and program components for the preparation of teachers; to conduct research experiments in new training procedures, methods and curricula, and to design programs for graduate students who aspire to be teacher educators in general and specific curricula areas. The Center has been established with the intention of insuring a systematic approach to the many facets of teacher education. It is expected that a majority of the faculty of the School of Education will be active in the Center.

In addition to the eleven permanent Centers described above, the School of Education also offers a number of special programs and courses which respond to new interests and needs. These are more temporary and have less resources than the Centers, but encourage new experimentation and new juxtapositions of resources, and thus serve the Centers and the

School by providing relevant new input and heightening flexibility overall. Some of the programs fill special needs; others may eventually become major centers in the School. At present, there are 13 such special programs operating within the School of Education.

The Contemporary University program is a student-directed, mobile research project involving 60 full-time students from three different university campuses each semester. Twenty students each from Federal City College, the University of South Carolina and the University of Massachusetts School of Education will participate in a series of research projects on contemporary problems, issues and concerns of American society. In addition to the specific information the students develop, the students will learn first-hand various techniques of problem-solving and empirical investigation. Periodically during the program, these 60 students will conduct seminars for 200 additional students on each of the participating campuses, thus insuring an input/feedback device for evaluative purposes.

The Early Childhood Education Program has been created to work in an area which has become increasingly significant in the light of statistical evidence suggesting that nearly half of the children in the U.S.A. are not succeeding even in the terms by which success has usually been measured. Thus, a special teacher education program has been initiated for those who will work with children aged 2 to 8. Proposed is a year of professional study integrated with direct teaching experience. The central focus of the year will be a series of seminars and laboratory experiences built around and supported by two 8-week field teaching blocks.

The intent of the Higher Education Program is to provide intelligent, sensitive and creative individuals with the knowledge and experience necessary to assume a broad range of roles in institutions of higher learning. The program is evolving three major thrusts. The first, being developed in cooperation with the Center for Humanistic Education, seeks to provide teacher/administrators who, through courses, research, tutorials and practica, will be able to create new educational alternatives for students in institutions of higher learning. The second, being developed in conjunction with six other departments in the University, looks to the creation of a Doctor of Arts program for individuals who wish subject-matter background comparable to that of the Ph.D., but whose primary interest and expertise is the design and implementation of creative curricular experiences. The third is the creation of Whitehead College, which will be dedicated to increasing the relevance and meaning of the undergraduate experience through an application of A.N. Whitehead's educational theories and ideals. Although these programs will be sponsored by the Higher Education Program of the School of Education, they will also draw upon other University resources as well as those of the Five-College complex for credit experiences, research, field study, and intern or practicum experiences open to undergraduate and graduate students.

The special program to develop Instructional Applications of Computers is designed to provide students with opportunities to learn of present capabilities and to explore potential instructional uses of computers. The Department of Computer Science and the Media Center of the School of Education provide resources and learning experiences which

are both necessary and complementary elements of this program. This program will be available to students on all levels.

The Junior-Year-Off-Campus -- presently restricted to 25 juniors -- will provide students the opportunity to immerse themselves in, observe, and evaluate their own reactions to rural and ghetto situations which have not been a part of their previous life experiences. The program makes a conscious and systematic attempt to combine theory and practice through the alternation of field experience, scholarship and self-evaluation. The intent is to capitalize on the combination of theory, practice and increased self-awareness as a means of making the student's senior year more valuable in his total teacher training.

The M.A.T. Community College Degree Program has been established in recognition of the rapid growth of community colleges. It will focus on developing an understanding of the philosophy, mission and student cultures of community colleges, as well as on competence in a major discipline and background in a related one. The Program will include a 24-unit academic requirement and a paid semester's internship.

The special program in Education and Public Policy aims to prepare educational generalists who have broad basic exposure to political realities and are thus better prepared to deal with educational problems across a wide spectrum of American life. The program will inform educators of the theoretical and actual roles of the federal, state and local governments in education. The program offers the university senior a 15-credit hour, one semester major of courses including several in history, government and political science. Course offerings will be supplemented by experiences such as practial work in

a social, educational or political setting outside the classroom for which module of credit will be given and a portfolio maintained. This will be followed or preceded by one semester of work as an intern with an urban school superintendent, with a state department of education, with a member of the U.S. Congress, or with the U.S. Office of Education in a regional office or in Washington. At the conclusion of the internship the student will submit an undergraduate thesis or paper related to his work.

The Research and Training Program in Compensatory Education recognizes an important recent development in American education. At present, the program's staff has been engaged in a project sponsored by the Advisory Council on Education to Evaluate Compensatory Education in the State of Massachusetts. Funds currently total $16,000,000 for Title I programs in the state. A major program in compensatory education which may parallel the emergence of a Center for Research and Training in this field is geared to a funding proposal to link the School of Education with educational institutions in the Appalachian region. The objective of this proposal is to provide a means of training key personnel who are currently employed or may soon be employed by Appalachian institutions of higher learning, so that they may plan and implement similiar programs in their own institutions. No full-scale graduate program is likely to be implemented in September, 1969, but a pilot program can be expected in 1969-70, and the long-range outlook is for major graduate programs in compensatory education. Selected courses in the field will be offered in September, 1969.

In addition to its regular teacher education program, the School of Education offers a series of experimental teacher education programs to

undergraduates on a limited-enrollment basis (no more than 50 students per year). These programs, leading to credentials in secondary and/or elementary teaching, attempt to approach the problem of teacher education from a unified perspective which might be sacrificed by inclusion in the more general program. These programs are experimental in nature and thus the offerings in any given year are likely to differ substantially from those in other years. Selection of students for each program will be based on criteria developed in accord with the program's special emphasis and guiding philosophy. It is anticipated that four such programs will be offered in 1969-70: a clinically-based program in the Hartford schools; a program whose main component is the planning of teacher education for urban schools; a student-centered teacher education program, and a program specifically designed for teachers in flexibly scheduled schools.

The Program for Systems Applications in Education plans to offer learning opportunities in the applications of systems techniques to educational problems which are complementary to the learning experiences in systems analysis, operations analysis and information science already offered by the Department of Industrial Engineering, the School of Business Administration and the School of Computer Science. By working closely with the above components of the University, the School plans to offer doctoral level programs in Operations Analysis and Information Science in Education. The program will offer seminars in operations analysis in education, situation modeling in education and the technology of scheduling.

The Undergraduate Program for a B.A. in Special Education is being planned to use the state requirements for certification in this field as its basis for an innovative program of teacher preparation for work with the 10-15% of the school population termed exceptional (mentally or emotionally handicapped). New courses within the program will include credit seminars, student-innovated courses, practia and inter-disciplinary work.

The Vocational/Technical Education Program is expected to grow rapidly. The program will emphasize an inter-disciplinary approach among the areas of agricultural education, distributive education, trade and individual education and technical education. The program's overall purpose is to provide teachers who are both humanistically and technologically oriented. Programs at both the Master's and Doctoral levels are now being designed. Both will exclude compartmentalization through a common yet diverse core of courses and experiences the field, combined with internships in business and industry. In addition, a work-study program will be offered to undergraduates thus hopefully providing future teacher-coordinators of Distributive Education in the New England area.

Also deserving mention among the major accomplishments of the School during the past year was the recent vote of confidence given the School's proposed two-year experimental program of operation by the University's Academic Senate. The Senate passed by a 2-1 majority, the School's proposed pass-fail grading system, and then voted almost unanimously to endorse the School's proposed new programs. We are pleased to have been able to earn such strong support within the

University; we hope that we will soon be able to return that support by offering what help we can to others within the University who are attempting to explore the educational alternatives open to them in their particular fields of concern.

Special Projects

Among the special projects of the School of Education carried on during the past year, the following were held over from 1967-68:

Agency for International Development: Operation of Tororo Girls School, Uganda, East Africa, (Elwyn Doubleday).

U.S. Office of Education Contract: Applied Research Training Program Project, (William C. Wolf, Jr.).

Kettering Foundation: Microteaching and Counseling Project, (Allen E. Ivey).

U.S. Office of Education: Distributive Teacher Education Project, (Ray Johnson).

Kettering Foundation: Comprehensive Random Achievement Monitoring Project, (Dwight W. Allen).

New projects funded in 1968-69 include:

AGENCY	PROJECT	PRINCIPAL INVESTIGATOR	DATES	TOTAL
Kettering	Colorado Retreat	Dwight W. Allen	9/68	$4,000.
C.F.K. Ltd.	Colorado Retreat	Dwight W. Allen	9/68	$5,000.
U.S.O.E.	Applied Research Tng.	William Wolf	9/69-8/70	$100,000.
U.S.O.E.	E.P.D.A.	Arthur Eve	1/69-6/70	$180,000
U.S.O.E.	West Side Study Center	Atron Gentry	6/69-9/69	$11,000.
New World	Hartford Project	Jack Woodbury	1/69-6/69	$10,000.
General Electic	Media for Education	Dave Coffing	----	2 G.E. V.T.R
U.S.O.E.	Model Teacher-Phase I	Dwight W. Allen	3/68-10/68	$100,000.
U.S.O.E.	Model Teacher-Phase II	Jim Cooper	5/69-1/70	$150,000.
N.S.F. Institute	School Science Program	Dick Konicek	1/69-5/70	$24,270.
U.S.O.E.	Media Center for Deaf	Ray Wyman	9/68-8/69	$149,325.
U.S.O.E.	Tng. Media Specialists	Ray Wyman	9/68-8/69	$15,000.

Kellogg	Community Colleges	Bill Lauroesch	1/69-6/71	$68,000.
Teacher Corps	Worces.-UMass T.C.	Dave Schimmel	10/69-1/70	$330,000.
U.S.O.E.	Counselor Behavior	Jules Zimmer	1/69-11/69	$8,300.
U.S.O.E.	Distributive Education	Ray Johnson	7/69-7/70	$40,000.
MITRE Corp.	Computers in Education	Arthur Eve	7/69-7/70	$15,000.
M.A.C.E.	Compensatory Education	Daniel Jordan	9/68	$50,000.

Kettering and C.F.K. Grants for Colorado Retreat

In September, 1968, the Trustees of the Charles F. Kettering Foundation and of the C.F.K. Ltd. approved grants in the amount of $4,000. and $5,000. respectively, for partial support of the proposal entitled "A Charter for a New Program for the School of Education at the University of Massachusetts." To implement this charter, Dean Dwight W. Allen, during the third week of September, suspended classes and closed the School of Education in order to fly faculty, doctoral students, selected undergraduates, and several special observers and participants to Colorado for a week's retreat. What did the week-long retreat accomplish?

On Sunday, September 15, 1968, 141 persons boarded a 707 jet, chartered to take the School of Education planners to an isolated summer camp in Colorado. For the ensuing five days, meetings on every variety of subject affecting education were held daily from 9 A.M. to noon, 3 P.M. to 6 P.M., and again in the evening. The participants committed themselves to finding creative solutions to the urgent problems facing educators today -- problems in urban education, human relations, international education, early childhood, educational technology, and compensatory education. The meetings brought significant answers to these questions as well as preliminary structure for the planning year.

Equally important, the conference was an intensive experiment in group living, interaction, confrontation, and participation. It established, among the staff, the interpersonal relationships needed for further communication and accomplishment, and developed a cohesion of purpose among the diverse personnel represented in the School. Finally, it was a dramatic start for a year of planning, a year in which all course structures are being scrutinized with a view to rewriting not only curriculum for the School of Education, but the entire approach to teacher training, from the undergraduate through the doctoral level.

The Applied Educational Research Training Project

We are presently offering doctoral level programs, established to train individuals for applied research positions within the pedagogical community. These programs are designed to develop curriculum and instruction research, research evaluation, and research diffusion competencies. Individuals who enroll in these programs will be trained for positions in research laboratories, in school systems, and in colleges and universities.

Each of the doctoral level programs is intended to be a second concentration area that is allied with a prime concentration area in education, psychology, sociology, anthropology, and various other fields. Students pursuing these second "majors" will earn twenty-one hours of graduate credit toward the doctorate degree.

As a result of this exposure, the field of pedagogy will benefit from an infusion of scholars with new perspectives, unique academic

backgrounds, and relevant skills. Talent of this sort already is in demand for the evolving network of regional research laboratories, research-oriented school systems and institutions of higher learning, and educationally-oriented commercial and industrial enterprises.

E.P.D.A. Project

This EPDA project actually consists of six separate institutes and a small project administration unit referred to as the Management Control Center. The six separate areas which make up the total U Mass EPDA grant are: an Evaluation Institute, a Differentiated Staffing Institute, a Strength and Sensitivity Training Institute, an Appalachian Consortium Institute, and Urban Education Institute, and a Computer Simulation Institute. In the case of every program, Federal EPDA money has been supplemented by local funds in order to expand the magnitude and potential impact of each of the EPDA institutes. In addition, private foundation resources and Federal funds other than those obtained through this EPDA grant have been used to supplement certain of these projects.

Supplementing these six programs which have been selected from the original proposal for direct EPDA support, ten other projects which were included in the original proposal are being partially supported by sources other than EPDA because these projects are now regarded as integral components of the programs within the University of Massachusetts School of Education. These projects are:

1. Teaching Science and Mathematics when the Computer is Readily Available.
2. The Educational Triad
3. A Model for Retraining Teachers to Teach New Subjects
4. The Development of a Combined Bachelors/Masters Program for Educational Personnel

5. The Co-op Classroom
6. Junior High School Project
7. Innovative Administration
8. Educational Media Training Workshop for Teachers
9. Defining Parameters and Systems for Educational Knowledge
10. Training of Non-Credentialed Personnel for Roles in Differentiated Staff

Westside Study Center

Under an EPDA planning grant, the Center for Urban Education and Westside Study Center for cooperating in the design of an urban school in Pasadena, California. The long range goal is a fully-staffed urban elementary school in which teachers (trusted and respected by ghetto residents) are selected to implement an innovative curriculum. The school would serve as a model for other urban schools as well as for the immediate benefit of ghetto children.

The exploratory planning activities will be coordinated with Westside Study Center, a four-year old, indigenous, self-help organization in Pasadena. Under Negro leadership both on its Board and in its administration, Westside is the only group in Pasadena in touch with all parts of the ghetto as well as the school and business establishments in the city.

Planning participants will include: ghetto parents, teachers, community organizations, civic administrators, businessmen, and universities.

Hartford Project

During this year, the Center for Urban Education coordinated a pilot teacher training program in Hartford, Connecticut, for undergraduates and master's candidates. The students were practice teaching in three

elementary and two secondary schools. The trainees were designated "resource students" because their major function was to provide additional manpower for the school system. These schools encompassed a variety of racial and socio-economic environments. A unique feature of the program was the live-in facilities provided for eleven of the students. Micro-teaching, strength training, and seminars in educational theory were offered in conjunction with the actual classroom experience.

At the doctoral level, the five graduate students served as coordinators in the five designated schools and supervised the practice teachers. They were also involved in other city-wide projects of the school system. For example, the doctoral students conducted four work-shops for the city-wide school human relations committee. Faculty from the School of Education provided their expertise at the Hartford location and in courses on the University campus. Faculty and doctoral candidates ran in-service meetings in individual schools, assisted in the preparation of proposals to the federal government, and participated in a variety of other planning activities.

Project Kideo-Video

Since their arrival, the two 1/2" video tape units given by General Electric Corporation have been placed into general use for the School of Education. Some uses are microteaching, teacher evaluation, classroom applications, production of single concept tapes for auto-instruction, and documentation of campus events.

The units were given for a Media Center project called Kideo Video. This project involves the production of video tapes by school children

which in turn are shown by commercial television stations. Currently, three stations in the Boston area are willing to commit their resources. Experimental tapes have been successfully produced by children in the Mark's Meadow School as a forerunner to implementation of the project.

Model Elementary Teacher Education Program -- Phase I

The University of Massachusetts' Model Elementary Teacher Education Program is an attempt to institutionalize change by way of a thorough analysis of educational roles, tasks, structure and objectives. M.E.T.E.P. uses the concept of performance criteria as a guideline for designing the program. Rather than stating trainee requirements in terms of courses, they are stated in terms of performance criteria in three major areas -- human relations, behavioral skills, and subject matter knowledge. Statements of what the trainee is expected to do, under what conditions, and how he will be evaluated constitute a performance criterion. In addition, for every criterion at least two instructional alternatives are provided for learning how to meet the criterion. When the trainee meets the specified criteria requirements he will have completed the program, regardless of the length of time enrolled.

Crucial to the implementation of a performance curriculum is an organization which gives coherence and structure to an educational program. Traditional school and credit offerings give no guidance in this regard. Systems analysis was found to offer a set of basic understandings which provide a useful and meaningful organization of the many diverse elements of a teacher education program. This approach was taken to organize, manage, and evaluate the program.

Other major concepts of the report include: differentiated staffing, variable entry and exit points, university commitment to its graduates beyond graduation.

Model Elementary Teacher Education Program -- Phase II

The formulation of performance criteria requires the specification of instructional and program goals in terms of behaviors to be exhibited by the trainee when instruction has been completed. Performance criteria can essentially be defined as behavioral objectives. They state the behavior expected of the teacher, under what conditions the behavior will be performed, and how the behavior will be evaluated. In addition, at least two instructional alternatives are provided for each performance criterion. Careful formulation of performance criteria liberates the planners from describing the program in terms of traditional "courses." Rather it is recognized that there are alternative paths to reaching many of the criteria. The development of meaningful criteria and the alternative paths for meeting these criteria has been of central concern in development of the program.

Performance criteria have been developed in three broad conceptual areas related to teaching. (1) content knowledge, (2) behavioral skills, and (3) human relations skills.

The study is designed to answer six questions regarding feasibility:

1. Is the model technically feasible? Can the model within the constraints of faculty, staff, equipment, physical facilities, and student time available, graduate and maintain elementary education teachers?
2. Is the model economically feasible? What are the fixed, semi-fixed, and variable costs needed to implement and maintain the METEP?

3. Is the model administratively feasible? Can the management subsystem coordinate the other subsystems of the program in order to gain the necessary knowledge to make decisions and to implement them?
4. Is the model pedagogically feasible? Can students learn to achieve the selected performance criteria by experimenting the listed instructional alternatives?
5. Is the model acceptable to its clients? Are the students in the program, public school teachers and administrators, state department of education, and the parents of elementary school children satisfied with the program?
6. How will the model insure and maintain its relevance for teacher education in the 1970's? How will the model itself insure updating, and how will the directors of the program remain alert to new educational demands?

A feasible approach to the problem of generating experience and experimenting with the proposed system appears to be the use of computer simulation. In using a systems simulation approach, a detailed model of the educational program in constructed on a computer which will behave over time in a manner similar to the real system.

The basic purpose of the simulation model is to anticipate problems so they can be solved before the METEP is installed. This is accomplished by having a model of the School of Education "constructed" on a computer.

N.S.F. Institute

This grant is funded by the Cooperative College-School Science Program. Its major purpose is that of providing an avenue for cooperation between

universities and school systems toward improvement of science curriculum offerings in public school systems. Teachers are trained to use new curriculum material and the university follows their progress during the following year and offers assistance when needs arise.

This grant joins the university with the Amherst and Greenfield Public Elementary Schools for implementation of the Science Curriculum Improvement Study materials in grades K-3.

The Northeast Regional Media Center for the Deaf

The Northeast Regional Media Center for the Deaf continued and expanded the work initiated by the original project in the area of educational media for the improvement of instruction and services to deaf individuals and those who come in contact with deaf individuals. During this phase of the undertaking, emphasis was placed on continuing a regional media clearinghouse, preparing media demonstrations, preparing transparencies for overhead projection, conducting media production workshops, training school media personnel and planning a third summer institute for teachers of the deaf.

A second set of 200 transparencies for teaching of the deaf has been prepared and will be distributed to 600 schools of the deaf throughout the country. This makes a total of 240,000 transparencies the center has made available for deaf education.

A six week summer institute for selected media supervisors or directors at schools for the deaf is being planned for the summer of 1969. This institute will be offered by the project core staff plus additional staff and invited lecturers who are uniquely qualified for the assignment.

Approximately 30 teachers of the deaf have been invited to attend. The 1969 institute has been expanded to include 15 teachers of the mentally retarded.

A unique new system, Mediated Interaction Visual Response (MIVR), for teaching deaf students was invented by the director and it has been demonstrated at several schools. It consists of specially adapted overhead projectors for each of eight students that are controlled simultaneously by the teacher, who also uses an overhead projector.

Other activities of the center staff have included equipment studies, consultations, and IMC Liaison.

Media Specialists Preparation Program

In June of 1968, a grant was obtained by the University of Massachusetts, School of Education from the U.S. Office of Education, Bureau of Education for the Handicapped to develop a program to prepare media professionals for schools for the deaf by means of a comprehensive three year program. A junior and senior year traineeship, and a master's level graduate fellowship would be included. It is a basic premise of the planning activities to design a program that prepares media specialists directly bypassing the current prerequisites of teaching experience.

The design presently envisioned is a parallel program to that used for preparing teachers of the deaf. There would be similarities, in that students would observe classes of deaf children, take courses similar to those in teacher oriented programs, and become familiar with ancillary areas such as psychology and audiology, but would not have the in depth coverage of methods, and classroom procedures. The emphasis would be placed on curriculum implementation, programming, behavioral science, communication

theory, cataloging and retrieval systems, administering media services, and the like.

The staff consists of a project director, Raymond Wyman, and a project coordinator, Joseph Panko. Both have been working to lay the foundation of the program, gathering data from current publications and consulting with experts from the areas of media and the education of deaf children. The data is now being reviewed for the compilation of recommendations for establishing the media specialists program. The most recent development in these activities was the receipt of information that funds to begin the program have been appropriated by the Office of Education.

As instructional technology begins to make an impact on schools for hearing impaired children, it is hoped that this training program will begin to provide media specialists to fill current and future needs.

Community College Development

To facilitate accurate and realistic articulation of community college and university-parallel curriculums, the Center for Community College Affairs is currently working or has worked with the Economics Department, German Department, the Physics Department, the School of Home Economics of the University and their counterparts at various community colleges.

Awareness of the rapidly accelerating need for faculty development and program implementation in vocational-technical areas has prompted the Center to turn much of its attention in this direction. Professor Lauroesch is a member of one of the task forces developing the Massachusetts State Plan required by the Vocational Education Amendments of 1968, and he

is actively endeavoring to remove obstacles to broader participation of the community colleges in technical education.

Assurances have been received from the U. S. Office of Education that a proposal for the planning of an advanced degree program for the training of vocational and technical education leaders for the region will be funded in the next fiscal year. The director of the Center for Community College Affairs will serve as project initiator.

The Center has undertaken systematic revision of the components of the Master of Arts in Teaching degree program for community college instructors. Specification of new program components has been worked out cooperatively between the Center and Presidents and Deans of Faculty of the two-year colleges.

Other explorations include an inquiry into means for improving student personnel services in the community colleges, cooperation with the UMass higher education program in the development of a doctoral (Doctor of Arts) program suitable for persons pursuing teaching careers in the two-year colleges, admission to the Graduate School of community college personnel wishing to pursue doctoral programs in administration and curriculum geared to community college needs, and cooperation with several community colleges in faculty and curriculum development for the allied health occupations.

Teacher Corps Project

In September of this year, the University of Massachusetts is offering a special Master's Degree Program for returning Peace Corps volunteers from the African contingent. The program is especially

designed to attract returnees (with Bachelor's Degrees) who are interested in applying their African experience to inner city classrooms and simultaneously earning both a Master's Degree in Education and teaching certification.

This program, which has been funded by the Teacher Corps (under the U.S. Office of Education) strikes a close parallel to the Peace Corps experience. Teacher Corps interns will teach and develop curriculum in African studies in a local school system; will live in the surrounding area and become involved in various school/community-related activities; and will receive on-site in-service training for the Master's Degree by the staff of the School of Education. It is a three-semester graduate program, tuition free, which provides a stipend of $75 per week (plus $15 per week per dependent) for each intern.

Special emphasis has been placed on recruiting black teachers for this project, due to both the subject matter and the needs of the inner city classrooms where they will be teaching. Our major concern, however, is to utilize the expertise of all former volunteers who have served in Africa for the introduction of African studies in public schools; therefore, we are attempting to contact as many as possible in the time remaining.

The Teacher Corps program is a part of the newly established Center for International Education, which is uniquely qualified to implement this type of program. Six of its staff members have taught or been administrators with Peace Corps; all members have taught overseas. The Director of the Center, Professor David Schimmel, is the former Director of Training for Peace Corps in the Virgin Islands.

Counselor Behavior

This project is an extension and modification of procedures used in two previous studies by Zimmer and Park (1967), Zimmer and Anderson (1968). The use of Factor Analysis and methods of eliciting responses for noting counseling sessions, provides a systematic procedure for defining counselor behavior within the context of a counseling session.

The current study is investigating the styles and content of three actual counseling sessions conducted by Carl Rodgers, Albert Ellis and Fritz Perls. It is designed to discover differences and similarities in the verbal behavior of each of the three counselors, who represent different orientations. After unique and general factors of counselor behavior is identified, operational definitions will be developed.

Current status of project:

1. Video films with numbers of the three sessions have been made.
2. Scales for rating have been developed.
3. Approximately 300 subjects have responded to the video films.
4. Factor Analysis program has been modified to handle data.

Regional Distributive Teacher Education Project

This project has a two fold purpose, to establish a teacher training program for Distributive Education coordinators in the New England region, and to create a fresh new meaningful curriculum and system of operation.

September 1, 1968, Mr. Ray Johnson and Mr. Frank Cyr started to meet these two objectives. They have identified the compentencies required of a D.E. coordinator and are in the process of establishing a curriculum based on performance criteria. As the performance criteria are developed,

instructional alternatives are selected that would provide a person the necessary knowledge and skills to meet said criteria. The system to manage the various elements in the process of moving through the program has moved from a theory to a working blueprint.

The activities carried on throughout the year has moved from strictly a research and development phase into a service function. A professor from the University of Idaho has been hired to help in piloting the prototype materials that have been and will continue to be developed. Two summer experiences are being offered to pilot some of the new concepts in Teacher Training. September 1, 1969 both an undergraduate and graduate program will be offered.

The final activity of this fiscal year was a Regional Distributive Education Conference which was attended by over 75% (180) of the D.E. Coordinators in New England.

Computer Sciences in Education

The working relationship between the MITRE Corporation and the School of Education will focus on the following areas of education development and planning:

1. The generation of a proposal outlining a developmental plan for simulation and gaming applications in the area of advanced curricular materials for educational administrators. A strategy for obtaining financial support from a variety of sources for this simulation and gaming proposal will also be developed and implemented. In addition, potential simulation techniques and gaming materials for the preparation of educational administrators will be selected for joint experimental testing and

evaluation. It is also anticipated that a training center for obtaining certain appropriated intern and/or course experiences will be established at the MITRE Corporation for use by University of Massachusetts students in Educational Administration.

2. The examination of the area of computer assisted mechanical mathematics techniques, as developed by researchers such as Bobrow, Moses, and Robinson, to determine the extent of their application in mathematics education. It is anticipated that this study may lead to a joint effort to develop instructional materials based on this technology.

3. The investigation of possible uses of the computer as an adjunct to elementary school mathematics education. Included will be programming by the pupil, interaction by the pupil with mathematical models represented by computer programs, and the potential for imbedding such interaction in a game format.

Program In Compensatory Education

The School of Education's program in Compensatory Education was given its initial impetus through a $50,000 grant from the Massachusetts Advisory Council on Education to carry out a study evaluating some 466 Title I (Elementary and Secondary Education Act) programs in the State of Massachusetts. These 466 projects represent an expenditure of $16 million worth of federal funds. This program involves the training of special doctoral candidates as data collectors who have visited a representative sample of both winter and summer programs. Two conferences have been sponsored by the study for Title I people in the State.

The staff of the Compensatory Education Evaluation Project completed an extensive review of the literature pertinent to the education of

disadvantaged youngsters and participated in the development of a curriculum for training students who wish to become teachers of the disadvantaged. This curriculum will serve as the basis for the expansion of the Compensatory Education Training Program and will tie in with the proposed Appalachian Institute.

The purpose of the Appalachian Institute, funded under the Education Professions Development Act, is to bring together a consortium of Appalachian colleges and universities for the purpose of training teacher trainers in the knowledge, understanding, and techniques of compensatory education. The Appalachian Institute will get underway in the Fall of 1969.

Future Plans

Our plans for the immediate future center around consolidating the efforts we have made, evaluating the programs we have begun and beginning new programs within the framework which we have built this year. Our Planning Year was deliberately set aside for brainstorming, for planning outside the contingencies of an imposed structure. Now, however, we intend to use our self-created structures to implement our plans.

We are well aware that during the past year we have been more than a little guilty of excessive introspection and a certain degree of egocentricity. Our communications with the rest of the University community have not been as responsive as we would like them to be or as they should be. Now that we have set our own house substantially in order, we intend to make it available to others in the community. It is our hope that other sectors of the University will feel free to use our facilities and staff to engage in experimentation which would benefit them directly and the University as a whole.

We expect to participate more actively in the operations of the Mark's Meadow Laboratory School, by developing a closer liason between our staffs and by integrating our programs to our mutual advantages.

We intend to continue our leadership of the Cooperative School Service Center and use this structure to integrate our programs with those of the school districts in our immediate vicinity. This is an organization which can have a clearly major impact on the citizens of this region.

We intend to implement the major evaluative instrument designed during the past year: a mixed, fifteen-member committee which will

study the School's programs in depth and report fully both to the School and to the University and the Academic Senate. The evaluating committee will consist of five members chosen from the School of Education, five members chosen from the rest of the University faculty and five members of national reputation outside the University. Through such a complete and prestigious evaluation procedure, we hope that we will conclude our three-year cycle of planning, implementation and evaluation with a series of specific and useful proposals which can be incorporated into the future development of the School.

The present budgetary problems of the University are of course fully felt within the School of Education. The lack of state support has particularly hampered our micro-teaching clinic -- a service vital in teacher training --, our ability to provide supervisors for our many student teachers, and has forced us to reduce sharply the amount of staff and clerical support we can offer our faculty members. The lack of financial support is especially unfortunate as the School is preparing to enroll substantially larger numbers of students on all levels.

To conclude, then, the 1968-69 year has been a major educational experience for the faculty and students at the School of Education. Not only have we learned and grown as individuals, but what is more difficult and more important, we have grown together as members of a group. Although the School's internal organization has re-formed in what is now an operable pattern, there is no expectation that things will necessarily remain in their present places. In the course of planning activities we have encountered more than a few problems. These do not please us, but neither do they frighten us. It is our conviction that such problems as

we have encountered must be dealt with if we here and others elsewhere are to re-create our educational institutions in humanly satisfying ways. These are not problems which can comfortably be avoided. They are problems which must be solved.

Appendix A

FACULTY PUBLICATIONS

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ANNUAL REPORT

of the

SCHOOL OF ENGINEERING

FY 1968-69

UNIVERSITY OF MASSACHUSETTS

AMHERST, MASSACHUSETTS

July 1969

ANNUAL REPORT

SCHOOL OF ENGINEERING

UNIVERSITY OF MASSACHUSETTS

1968-69

I. Introduction

The statistical data requested has been placed in the appendices as follows:

Appendix I	-	Appropriation Data
Appendix II	-	Personnel Data and Organization Chart
Appendix III	-	Students Served
Appendix IV	-	Professional Activities of the Faculty

The format of this year's report will be similar to that used in previous years wherein accomplishments, faculty recognition, plans and finally, problems facing the School, are discussed. Copies of Departmental reports are included as Appendix V.

II. Accomplishments

1. Undergraduate Activities

(a) Curricula Changes

At the close of academic year 1967-68 the faculty of the School of Engineering adopted a 128 credit hour limit for each of the six undergraduate programs offered by the School of Engineering and at the same time agreed to a relatively common freshman year program. Within this curricula framework, all departments in the School carefully reevaluated their entire course offerings and by the Spring of 1969 new curriculums were approved in each of the departments. The new programs can be characterized by somewhat surprising similarities. In every program the senior year allows for much greater flexibility in program formation. Electives representative of certain phases of engineering are presented to be chosen by the student. A great emphasis on independent project work is noted in all of the curricula capstoning what we hope will be a move away from "spoon-feeding" the student to much greater emphasis on stretching the student's capability to solve meaningful problems on his own and, in fact, to experience the thrill of creative design. It is reasonable to say that students graduating from our new programs will likely have less factual knowledge in broad engineering areas. On the other hand he should be much more

able to seek the factual knowledge where and if it exists and use it to solve real engineering problems. His senior year project work will also have resulted in some confidence that he can create devices or systems to meet a real need of society.

(b) Freshman Engineering

The Basic Engineering Committee, ably chaired by Acting Associate Dean Roscoe Ward, carefully studied the existing basic engineering courses required of all freshman engineering students. Discussions with the Committee and individual members of the Basic Engineering Program led to the conclusions that perhaps a reorientation of the freshman program was in order. The faculty members in the Basic Engineering Program expressed some concern that teaching freshman level courses year in and year out did not lead to the kind of professional development possible in a degree-granting department. Furthermore, faculty members not deeply involved in upper division courses and graduate research activities had some difficulty relating freshman engineering courses to the total engineering curricula. This apparent problem was discussed by the Executive Committee of the School and it was agreed that the Basic Engineering Program would be disbanded in June, 1969. Faculty members in the Program were given their choice as to which degree-granting department they wished to be affiliated and in turn the departmental faculties agreed to the proposed affiliation. Each department agreed to staff freshman engineering courses according to an agreed upon formula.

Staff Planning for the fall of 1969 reveals that the faculty members who were fully committed to the Basic Engineering Program will continue to have some participation in teaching the freshman engineering courses but, in addition, the departments are scheduling some of their outstanding teachers and researchers for these courses as well. We sincerely hope that the new scheme for handling freshmen courses will lead to much more exciting and stimulating approaches to these courses and consequently a lowering of our freshmen attrition rate.

A new procedure for advising engineering freshmen was implemented at the same time the Basic Engineering Program was terminated. In the past, the five basic engineering faculty members advised the entire freshman class (325 students) which obviously resulted in limited attention to the individual student. The new procedure involves the student being asked to give a tentative departmental preference, if they have one. Those students indicating a departmental preference will be assigned advisors from the respective degree-granting department.

Those students who do not make a choice will be assigned to an advisor as an unassigned student. Each department is contributing advising staff based on the approximate enrollments within the departments. These new procedures should result in an advisor being available for 6 to 10 freshman students for their entire freshman year.

(c) Cooperative Education

The optional pilot undergraduate cooperative work study program in the School of Engineering guided by Dr. H. D. Segool, Associate Dean Marcus and Professor R. K. Patterson now involves some thirty students and three departments. The program was carefully evaluated this past year in a draft position paper wherein it will be recommended that:

(i) Having obtained the cooperation and support of the Executive Committee of the School and the Faculty of the School, the Dean should obtain the backing of the University Administration and corollary endorsement and commitment to financial support by the Board of Trustees toward the establishment of a formal student-optional program of Cooperative Education in Engineering.

(ii) The Dean should establish an appropriately administered Office of Cooperative Placement staffed initially with a Coordinator of faculty rank and with the necessary secretarial and logistical support.

(iii) In support of a phased implementation of the recommended program, the School of Engineering should be provided with the following budgets based on 1969 dollars:

FY71	$75,000	(Initial funding may be anticipated as a consequence of a new Office of Education program.)
FY72	166,000	
FY73	175,000	

(iv) A set of Proposed Guidelines should become the basis for the program implementation.

(v) The University be guided by a set of recommendations derived from the experience of the School as it relates to certain legislative proposals for a state-wide system of cooperative education.

(d) IAESTE Program

Under the guidance of Associate Dean Marcus and a student committee the number of students participating in the IAESTE Program has grown from six last summer to fourteen the summer of 1969. Of the fourteen, six are Engineering students and the others are from the Sciences with the majority from Mathematics and Chemistry. Students will be going primarily to Europe with assignments in Denmark, the Netherlands, Great Britain, Sweden and Germany.

Attempts to get placement for students coming from overseas to the United States were only moderately successful, indicating again the need for a development office which would then give the University contacts it does not now have.

The IAESTE Program brings young scientists and engineers together from nearly all over the world to work in laboratories and engineering offices in foreign countries. The student earns almost enough to pay for his complete summer abroad. Certainly, with the vast majority of our students coming from the Commonwealth, this is an excellent way to broaden their horizons.

(e) Student-Faculty Relations

Each department has developed means to maintain open channels of communication as detailed in their respective reports. Because the School is relatively small, we are able to maintain excellent student-faculty relations. However, this continues to be an area we must try to improve.

(f) Major laboratory modifications are underway in all of the degree granting departments. Three NSF undergraduate equipment grants to the Electrical Engineering Department have resulted in nearly $100,000 worth of new laboratory equipment being purchased and installed in their laboratories.

Another NSF equipment grant to Dr. Geoffrey Boothroyd in the Department of Mechanical and Aerospace Engineering should assist in the development of an excellent production-engineering laboratory relatively unique in the United States.

Although we are indeed proud of the accomplishments of the faculty in attracting grants to revise or develop new laboratories, our new curricula will continue to require substantial investments in modern undergraduate laboratory equipment.

(g) It should be noted that our first graduates in the new undergraduate Aerospace Engineering Program were awarded their degrees in June, 1967. Accreditation of the Program by ECPD will be sought at the time our other programs will be evaluated again.

2. Graduate Programs

(a) Growth

The graduate programs in the School of Engineering are developing both quality and expanded enrollments. As our faculty continues to grow in stature as well as size more high-quality graduate students have been attracted. The enrollment in the graduate programs of the School increased from 175 to 240 last fall.

There is, however, real uncertainty as to continued growth of the graduate program because of the existing policies of the draft administrators. The "eldest first" policy began to reflect itself last spring when a considerable number of our graduate students were classified 1A. Several left immediately for positions in industry which essentially guaranteed deferment. More serious, however, was the fact that seniors in engineering schools throughout the Nation sought jobs in industry rather than accepting offers from graduate schools of engineering. Rather than admitting greater numbers of foreign students as many schools did last year (one-third of first year engineering students were foreign students), the Executive Council decided we would hold the line on the number of foreign students in the School even if it meant a reduced enrollment in our graduate programs.

Our geographic location, i.e., remote from major industrial activity, prohibits developing substantial numbers of part time graduate students who ultimately might enter a full-time graduate program. Several years ago Dr. Howard Segool and the writer looked into the feasibility of closed circuit TV course offerings in Western Massachusetts. Industry expressed interest in participating in such a program but the cost per student for the facilities appeared prohibitive. The New York Science and Technology Commission has funded a study to be carried out by Rensselaer Polytechnic Institute to determine the feasibility of a closed circuit TV system from Troy, N. Y. to Hartford, Connecticut. Mount Tom is being considered as one site for the transmission system. If this is the case there is a distinct possibility the School of Engineering may be able to participate with RPI in offering engineering courses to engineers in Eastern New York and Western Massachusetts. Such an arrangement would have a major impact on the size of our graduate programs with no changes in the draft policy.

(b) Ocean Engineering

A new graduate program in Ocean Engineering was approved by the Board of Trustees at the end of the year. The Commonwealth of Massachusetts, with a 1500 mile coastline, enjoys a vast wealth of ocean resources and its economy benefits greatly from a highly developed ocean industry. With one-fifth of the Nation's oceanographic industry already established in the Commonwealth, it is evident that Massachusetts has a substantial commitment to the development of marine resources and ocean technology. The Trustees' approval of the Ocean Engineering program is the first step in the Commonwealth's establishing a center of academic support for its ocean-oriented industry.

The Ocean Engineering Program will be administered as a degree-granting subdivision of the Civil Engineering Department; however, the administrative mechanism provided will preserve the interdisciplinary nature of ocean engineering as an objective of academic pursuit. Requirements for the Master's degree are designed to promote understanding of the ocean environment while developing greater competence in a field of engineering which is applicable to ocean-oriented, technical problems. Doctoral study programs in Ocean Engineering are designed to prepare individuals for high-level professional careers in academic, governmental or industrial positions. Special mention should be made of the excellent work of the members of the Deep Sea Submersible Board and in particular, Professors Heronemus and Colonell for preparing the graduate program proposal.

The success of the Ocean Engineering Program and the Marine Science Program as well will depend on the University acquiring a marine station site on the coast. Negotiations with the owners of Hodgkins Cove, near Gloucester, have been initiated and it is imperative that the University move immediately to complete these negotiations. Hodgkins Cove is a site of nearly seven acres with small buildings and a good wharf. The site has been enthusiastically approved by all faculty members at the University concerned with marine science and ocean engineering.

(c) Air Pollution Training

Cooperative efforts of the School of Public Health, the College of Agriculture and the Environmental Engineering Group in the School of Engineering have resulted in the award of a training grant averaging $50,000/year over the next five years from the National Air Pollution Control Agency. Students in any of the disciplines related to Air Pollution studies can participate in the program.

(d) A draft copy of a proposal to establish graduate programs in Aerospace Engineering has been prepared by an ad hoc committee representing all departments in the School. After consideration by the Executive Committee and perhaps some modification the proposal will be submitted to the Trustees through normal campus procedures. The proposed program is to be administered as the Ocean Engineering program but as a division of the Mechanical and Aerospace Engineering Department.

3. Research

Sponsored research in the School of Engineering continues to grow at almost a surprising rate when one considers that federal research budgets have been nearly constant the past three years. Sponsored research expenditures for FY69 by the School should exceed one million dollars for the first time in the history of the School. This rapid rate of growth reflects the growing quality and productivity of the faculty and it is the faculty of the School that deserves recognition by the University for this remarkable growth.

Project THEMIS has been funded for another year, extending support for our work in deep-sea technology through 1972. This year as in past years ONR has tried to raise our annual level of expenditures only to have their recommendations denied at higher levels of D.O.D. In December, 1968, the first joint Symposium of UMass and the University of Notre Dame on deep-sea submersibles was held at Notre Dame. Researchers supported by Project THEMIS at both Schools presented papers on their work. In addition outstanding ocean engineering leaders from industry and government gave invited papers. Nearly one hundred participants from universities, industry and government attended the Symposium. Professor Charles E. Carver deserves special mention for the many hours of effort on his part to plan the Conference with his Notre Dame counterpart. The University of Massachusetts will host the second joint symposium in the spring of 1970.

Last year special mention was made of the growth of sponsored research in Chemical Engineering and Environmental Engineering. Both these groups have continued their excellent growth in sponsored research during the past year. This past year the Department of Electrical Engineering raised its level of sponsored research to nearly $150,000 which is indeed dramatic since two years ago the level was about $20,000.

Professor J. R. Dixon has expressed concern about the problem of attracting additional research support in the Department of Mechanical and Aerospace Engineering. Special effort will be made to assist Dr. Dixon to continue the excellent growth that

had been taking place until this past year.

New laboratory facilities were constructed for the Environmental Engineering Program. Research space and equipment were nearly tripled for this group. This construction work was funded through trust funds and supervised by Professor Armand Costa. Professor Costa is to be commended for the quality of the work done but more importantly, for getting the work done in a reasonable period of time.

4. Relations with High Schools

In November some eighty high school teachers from Massachusetts primarily, with a few from other New England States, visited the campus for a one-day Institute on the Man-Made World Program. There had been one-hundred twenty-five reservations but a severe snow storm the previous day made it impossible for some to come. Associate Dean Marcus, Dr. Conrad Wogrin and Mr. Charles Camp from ARHS toured New England the past year, discussing the Man-Made World Program with various groups.

Some twenty-nine high school teachers and three community college faculty members are on campus this Summer for the second Summer Institute on the Man-Made World Program. The community college faculty are being supported by Kellogg Foundation funds which were available on campus for community college relations programs.

Dean Marcus has been a member of the Northern New England Junior Science and Humanities Symposium, a program subsidized by the Army Research Office at Duke University. As a direct result of Dean Marcus' efforts, the School has been awarded $7,000 for offering a symposium in 1970. Approximately one-hundred and fifty high school students and fifty teachers from all of New England will come to the campus for the symposium. In addition, industrial representation will be invited.

Perhaps the most significant accomplishment related to interaction with the high schools has been the publication of an excellent brochure on the School of Engineering. The brochure was prepared by a committee consisting of Professors Colonell, Thomas, Kaminsky, Ambs, and Cashin and chaired by Associate Dean Marcus. Excellent layout and design work was done by Mr. Walker and Mr. Roche in the Publications Office. All who participated in publishing the brochure should be commended for a job well done. As a result of a notice concerning the brochure in an ASEE publication, the School has received two hundred requests for copies of the brocnure.

In the fall of 1969, the School ran a series of fifteen TV shows on WHDH-TV, Channel 5, in Boston. The programs were aired at 9:30 AM, Tuesdays, and represented part of the public service commitment of the Station. The series was entitled "Technology Today" and "starred" Associate Dean Marcus as Master of Ceremonies and in general, anchor man for the other stars who were faculty members from the School who came to talk about their areas of professional interest. Programs were televized on the Environment, the Ocean, Systems, Ecology, Prosthetic Aids for the Deaf, Educational Technology, and Automated Assembly. The series could never have been aired without the technical competence, patience and valiant efforts of Mr. Charles Keenan in the University News Office. He wrote all the shows, made contacts with the Station, collected all materials required, conducted rehearsals in the School of Education and in general, served beyond the call of duty. Our thanks to him.

5. Relations with Community Colleges

Associate Dean Marcus continues to work closely with the Community Colleges and Technical Institutes, recognizing that more and more of our engineering students will come from these institutions. The three representatives from the Community Colleges attending the Man-Made World Summer Institute is but one example of our attempts to upgrade Community Colleges teaching of engineering courses.

A brochure on curriculum was provided to all the people in the Community College technical institutes and junior colleges with whom we work. A closer relationship has developed between these people and the School of Engineering. Associate Dean Marcus is frequently called or visited to discuss changes in their curricula, staff appointments, et cetera. Springfield Technical Institute has expressed appreciation for being able to provide teaching assignments for some of our graduate students. This arrangement will provide real advantage to everyone concerned.

In the spring, Associate Dean Marcus had a one-day meeting on campus with representatives from all but one of the Community Colleges in the State as well as Franklin Institute, Wentworth Institute and the Worcester Junior College. As a result of meetings of this kind the Community College people have a good understanding of what the School is trying to do and the level of student we seek.

6. Relations with Alumni

After considerable activity during the fall and winter, the Engineering Alumni Association of the University of Massachusetts was organized and

met in Worcester this past spring. Three clubs have been formed, located in Boston, Worcester and Springfield. A group of engineering alumni in the Pittsfield area have expressed enthusiasm for forming a club in Northwestern Massachusetts. Special credit should go to Bill Boyle and Bob Gibb who worked with Associate Dean Marcus and the writer in getting the organization started. There seems to be tremendous interest among our alumni concerning the new School of Engineering and we are anxious now to find ways to have our alumni visit the campus. One day on the campus seems to be the necessary stimulus for enthusiasm since all who have visited in the past have expressed real enthusiasm for both our faculty and facilities.

The Engineering Alumni contributed over $2,500 to continue supporting scholarships for outstanding engineering students.

A second two-day program entitled "The New University of Massachusetts -- A View of Science and Engineering" was held in November. Twenty five outstanding industrial leaders and University Alumni visited the campus and we can easily say that we made twenty-five new friends for the University. The value of these programs in developing a better image of the University we believe has been documented by the letters we received from the participants. Since the School now wishes to focus its attention on developing better relations with its own alumni, we urge that programs of the kind we have initiated be continued by the proposed development office of the University. Those of us who have participated in the May, 1968 and the November, 1969 programs are anxious to assist those responsible for continuing the programs.

7. Service to Industry

(a) Departmental Activity

Professor Higgins of the Civil Engineering Department organized and directed a summer short course on Water Quality Engineering held in June, 1969.

Professor Geoffrey Boothroyd of the Mechanical and Aerospace Department served as Director of the COMTECH Conference on Materials, Materials Processing and Manufacturing held in March, 1969.

Professor S. N. B. Murthy organized and served as Conference Chairman of the Eastern Section of the Combustion Institution held in October, 1968.

Professor Ronald Rubel presented a short course at the Franklin County Public Hospital on the "Introduction of Industrial Engineering Methods and Work Simplification" given to personnel of supervisory or higher level employed at the Hospital.

It should also be mentioned that during the past year two international journals were edited by members of the Mechanical and Aerospace Engineering Department faculty. Professor W. A. Nash edits the International Journal of Non-Linear Mechanics and Professor F. Erskine Crossley edits the International Journal of Mechanisms. During the coming year a third journal edited in the School will be the Journal of the Operations Research Society of America, edited by Professor H. J. Miser who joins the faculty of the Industrial Engineering Department July 1, 1969.

(b) Commonwealth Technical Resource Service

A principal manifestation of COMTECH has been in its technology transfer activities under the State Technical Services Act of 1965. Grants from the Office of State Technical Services, U. S. Department of Commerce, totalling $70,581 have been matched as required from non-Federal sources to underwrite a FY68 program (active over the period June 3, 1968 through December 31, 1969) in the amount of $132,936.

The status of the various projects follows:

(See attached page)

Institution	Project Title	Budget $
COMPLETED		
Univ. of Mass. M. A. E. Department	Conference on Materials, Materials Processing, and Manufacture	$12,600.
Boston University Office of Conf. Dev'p't.	Institute on Innovative Technology in the Residential Rehabilitation Industry	16,260.
New England Center for Continuing Education	Office for the New England Technical Services Program	6,000.
NECCE Sub-Contract/ Graphic Arts Tech. F'n.	Workshops in the Graphic Arts	--
NECCE Sub-Contract/ Babson Institute	Technology Implementation and Transactions at the Entrepreneurial/Venture Capital Interface (sub-contract bought up for failure to perform)	490.
NECCE Sub-Contract/ Boston College, S.B.A.	The Art of Joining Innovative Technology, Management and Capital	9,299.
CONTINUING THROUGH 12/31/69		
Univ. of Mass., COMTECH	Technical Services Management	30,792.
Univ. of Mass., COMTECH	Communications Service	33,846.
Univ. of Mass., COMTECH	Internal Counseling Service	4,500.
Univ. of Mass., I.A.I.M.	Technical Guidance Center for Industrial Water Pollution Control	18,366.
CANCELLED		
Worcester Polytechnic Institute	Introducing Industrial Innovation to the Commonwealth	789.
	TOTAL	$132,936.

In parallel with the continuing projects of the FY68 Program, a FY69 Program was initiated the first of April, 1969, to continue through June 30, 1970 with possible extension through December 31, 1970. Federal grants comprising $119,571 direct to the University supplemented by a grant in the amount of $17,890 to NECCE but allocated to the University are being used to support a program totalling $277,144. The program comprises nine intrastate and pro rata share of four New England Regional projects.

The Director is a member of the six man Executive Committee of the New England Technical Services Board which governs the regional program. He also functioned as a member of the National Ad Hoc Steering Committee to organize a response to the temporary suspension of a FY70 budget request by the U. S. Department of Commerce. He has alerted the Massachusetts Congressional delegation with a program justification, with favorable response. However, a cost benefit analysis by A. D. Little under contract to Commerce will probably decide the issue, sometime late Fall, 1969. Meanwhile, the FY69 funds have been arranged to avoid program suspension in Massachusetts through June 30, 1969.

III. Faculty Recognition

The accomplishments discussed above reflect the dedication, energy and hard work of the faculty of the School. If the School is to continue recording accomplishments of which all of us can be proud, the University and the School of Engineering must provide the environment and services which can aid competent faculty members to be productive. Providing these will be discussed under the section of the report entitled "Problems" but it should be recorded at this point that our faculty expects to be productive and competitive with the best engineering schools of the Nation and it is the responsibility of the School and University administrations to provide the supporting services necessary to maintain productivity.

We were delighted to report last year the excellent additions to the faculty of the School. Eleven new faculty members were listed. Subsequent to the writing of the report we were fortunate in attracting the following faculty members for 1968-69:

Visiting Associate Professor Roscoe F. Ward, PhD, Washington University
Environmental Engineering

Assistant Professor L. S. Bobrow, PhD, Northwestern University
Electrical Engineering

Continued excellent recruiting efforts by all Department Heads in the School resulted in fourteen new faculty members to be added during the coming academic year. The new faculty members are listed below:

Chemical Engineering Department

Professor Stanley Middleman, PhD - Johns Hopkins University

Visiting Professor Thomas H. Chilton, Honorary PhD (Member of the National Academy of Engineering)

Civil Engineering

Assistant Professor Dwight Sangrey, PhD - Cornell University

Assistant Professor F. A. DiGiano, PhD - University of Michigan

Electrical Engineering

Assistant Professor R. W. Ehrich, PhD - Northwestern University

Associate Professor L. E. Franks, PhD - Stanford University

Assistant Professor R. M. Glorioso, PhD - University of Connecticut

Professor Imsong Lee, PhD - Stanford University

Industrial Engineering

Visiting Professor E. N. Corlett, PhD - University of Birmingham

Professor H. J. Miser, PhD - Ohio State University

Mechanical and Aerospace Engineering

Instructor R. G. Budynas, PhD - University of Massachusetts (expected-1970)

Assistant Professor R. H. Kirchoff, PhD - University of California, Berkeley

Assistant Professor Ramani Mani, PhD - California Institute of Technology

Visiting Associate Professor A. H. Redford, PhD - University of Salford

Professor Sydney T. Maunder, a highly regarded member of the Electrical Engineering faculty, retired for the second time at the end of the year. Professor Maunder retired first from the General Electric Company after a distinguished career in engineering. We welcomed his joining our faculty and helping us these past years.

Assistant Professor Denton B. Harris of the Civil Engineering Department has been awarded sabbatical leave to study ocean engineering at the Texas A & M University.

Professor Robert R. Archer of the Civil Engineering Department continues his Public Health Service Special Research Fellowship at MIT on a part time basis.

Professor Kenneth D. Cashin of the Chemical Engineering Department has been on leave this past year, developing a program and laboratory facilities for a new Chemical Engineering Department at the College of Petroleum and Minerals at Dhahran, Saudi Arabia. Professor Cashin will continue his leave there next year.

Professor S.N.B. Murthy of the Mechanical and Aerospace Engineering Department will be on leave this coming academic year.

We welcome back Associate Dean E. E. Lindsey from a year's sabbatical leave at the University of Texas.

Four members of the School faculty resigned this year. Professor Rolf Skrinde goes to the University of Iowa as Head of the Department of Civil Engineering. Professor Charles Bissey goes to Kansas State University in the School of Architecture. Professor Djimitri Wiggert and Professor John Nebiker leave education to reenter industry. We all have enjoyed the opportunity of working with our four colleagues and wish them well in their new posts.

IV. Planning

Of greatest importance to the School as we plan and grow according to plan is the construction of a new engineering building by 1974. Professor John Eldridge, Chairman of the Building Committee, has developed a program for the new space in collaboration with faculty groups representing various research interests. Dr. Eldridge points out in the annual report for the Department of Chemical Engineering the seriousness of the situation with respect to his teaching and research activities. The planning for the entire School is meaningless unless 130,000 net square feet of new space is available to us by 1974.

It has become increasingly evident that all space now available to the School and the space which will be returned to us when the Research Computing Center moves, will be fully occupied by 1970. Faculty and administrative morale

can continue at high levels if a new building is started in 1971. On the other hand, if no start on new space is made by 1971, we can expect serious morale problems on the part of everyone in the School. Three years ago our planning called for people and additional support for graduate students as the main objectives for developing the School. Outstanding progress has been made toward achieving those objectives. It is crucial that our new objective of housing the productive scholars and students now on board be met with as much success.

Planning for future growth has become more and more difficult for several reasons. The major stumbling block to effective planning is inadequate State support. It is absolutely imperative that the University convince the Governor's staff and legislative leaders that a formula budgeting procedure should be used to determine the University budget. A formula system of budgeting can provide funds on an equitable basis for simply maintaining existing programs and increased size of enrollments would result in additional funding. New programs would be funded if they receive approval of the Trustees over and above existing programs or they would not be initiated. Similarly, one could then argue for funds being made available to improve quality of selected existing programs much like the NSF Departmental Development grants. Under existing budgetary procedures planning becomes an exercise in futility since expanded enrollments and new programs attract no additional State funds.

The Civil Engineering Department has initiated studies of what the Department and School should be doing in earthquake engineering. Although earthquakes are not generally considered to be a great hazard in this area, there have been several very destructive ones in the East within historic times. The AEC now requires that all nuclear reactors be designed with a certain level of earthquake protection determined by the location. There have been a number of studies of the earthquake hazard in this country, which has increased greatly in recent years due to population concentrations in zones of high and medium risk. For these reasons, together with the fact that several members of this Department are very interested in the field of structural dynamics, it seems desirable to develop a capability in earthquake engineering here. To this end, during the Summer and Fall of 1969, proposals will be submitted to NSF for (a) a summer institute of three or four weeks duration in earthquake engineering in June, 1970, and (b) a research grant covering studies of structural response to earthquakes.

The Mechanical and Aerospace Engineering Department is developing a long range program of communication with twenty selected companies to help with our problem of the lack of Industry/University cooperation. This effort will be intended to supplement or complement programs of the Dean's Office and will be spcifically oriented to companies in the mechanical, aero-space or materials' fields.

V. Problems

The problems listed in the 1966-67 Annual Report for the School were repeated last year and are repeated again below. It is indeed discouraging that essentially no progress can be reported in solving problems that have existed for three years. Many of these problems involve State procedures and the University must either move actively to change State procedures or evolve procedures of its own based on fiscal autonomy won almost a decade ago. Special emphasis should be placed on Problem 4 i.e., secretarial service. Every Department Head lists lack of secretarial service as a major problem of his Department. We have added many outstanding faculty members active in research, publishing and professional societies. They simply must be provided with adequate secretarial service.

The Unresolved Problems of 1966-67 are all repeated as follows:

1. As indicated above and reinforced by Dr. John Eldrige's annual report, one major problem as we view the immediate future is that of space. Although we are in a reasonably good situation at the present time as far as the entire School is concerned, the Chemical Engineering Department is already beginning to experience severe space problems. If we are to grow over the next five years we must begin planning a new building in FY70 at the latest.

2. Dr. John R. Dixon, Head of the Mechanical Aerospace Engineering Department, raises the question of library services and organization. Others have also commented on the problem in verbal reports. The problem is not connected with existing personnel but rather with the broader situation of departmental versus divisional libraries. The Executive Council of the School stands on record as being completely in favor of divisional libraries (i.e., Mathematics, Physical Sciences and Engineering) as the only feasible way of providing first-rate library services to students and faculty members in the School of Engineering. Excellent information services are an important facet of creating the stimulating and satisfying environment for creative and productive work in the School. Engineering leans heavily on the physical sciences and mathematics for its underpinnings and a first rate collection in these areas plus easy and rapid access to this collection is of great importance.

3. The faculty of the School of Engineering seek ways to recruit outstanding students at both the graduate and undergraduate level. The former situation will be solved by bringing together faculties of national and in some cases, international

reputations, and developing support for the graduate students. Recruiting outstanding undergraduate students seems to be a more difficult problem in view of the limitation on out-of-state student enrollments. We must seek, under these limitations, to attract a greater number of first-rate Massachusetts resident students. Our competition for good students in Engineering represents some of the finest engineering schools in the Nation. Better scholarship awards independent of need must be made available so that we can attract ten to fifteen students of outstanding scholarship and leadership ability to set the pace for classes. Some efforts have been made in this direction but much greater support is required before significant changes can be made.

The writer believes that to a very great extent the youngsters of the Commonwealth do not realize the quality of training they can obtain at their State University. Much of this reflects the history of the Institution, but I strongly believe that a much more active public relations effort which seeks not to propagandize but simply to tell the actual story of the University's progress would do much to attract a higher level student to our University.

4. Secretarial service for our Departments has improved to some extent during the past year but as we add productive faculty members in each Department, dramatic improvement in secretarial service is required. This is another facet of providing the environment conducive to productive activity. Every effort will be made to provide adequate clerical and secretarial service as well as to move toward one-man offices and reasonable telephone service.

5. Because of the background of "shop teaching" in the School of Engineering we are blessed with excellent technician services. Several of the technicians urgently need upgrading in ranks because of their excellent craftsmanship and devotion to the School.

   The problem that faces the University, I believe, is how we can provide reasonable research services (i.e., machinists, electronic technicians, photographic laboratories, et cetera) for all the researchers of the University. In the past, the School of Engineering offered to do certain work for researchers on a first-come, first-serve, basis. As our faculty increase their research efforts, it becomes clear that we can no longer

provide service on any reasonable basis for the rest of the campus. By the end of the coming academic year our technicians will be fully occupied (and likely lagging) with research needs of the School. Only one reasonable solution exists for the problem in my opinion and that is to seek ways of charging grants and contracts as well as department accounts for services provided by a central research service operation. In this way funds can be made available to hire additional, and in some cases, more specialized personnel, so that service can keep up with demand. There is a real danger that if the University does not provide such service that private enterprise will -- to the inconvenience and unhappiness of the faculty.

The School of Engineering stands ready through the Engineering Research Institute to offer such services and to add the necessary crafts and capabilities if a system of charges for services rendered can be developed. It should be mentioned that efforts are being made by several people at the University to institute such services.

6. One of the most difficult problems we face in the School of Engineering is that of upgrading capable, dedicated and productive non-professional personnel. As we understand the system, it is nearly impossible to reward capable and loyal employees in the School. Rather, they must leave the job they are doing well to attain promotion. This system destroys developing a group with real "esprit de corps" and encourages "job hopping" for promotion. The Governor's Office apparently recognizes the problem but hopefully, we can do something at the local level to encourage promotions in a given job for work well done. We cannot let job descriptions, job titles and other civil service red tape stand in the way of promotions for loyal and hard-working employees.

To these unresolved problems should be added several new problems which have become increasingly evident over the past year:

1. The Bonham report of May, 1969, which is a study of the University Public Affairs Responsibilities correctly points out the need for a top-level development office for the University. The image of the University of Massachusetts throughout the State must be made to reflect the actual situation that exists. Only when the people in the State understand the significance of supporting a major State University will the Legislature provide the level of funding necessary to maintain a quality university.

2. Professor Dixon reports a new problem which is confirmed by the experience of others. The Conference Office on the campus

is simply not providing the level of service necessary to hold conferences and short courses at the University. The School of Engineering held three major and several lessor conferences on campus this past year. In every case the faculty member directing the conference found that the service of the conference office was unreliable and the attitude of the staff less than desirable. The directors can document their problems but the real point is that the School of Engineering cannot continue to invite important people to our campus to be embarrassed by inadequate preparation. The faculty member cannot give time and attention to non-academic matters that should be provided by the Conference Office. A new center is about to be opened which requires conferences and short courses to assist in meeting operating expenses. The School of Engineering will not be able to participate in its use until sufficient assurances are given that we will be supported by a high-level support staff who will handle all non-academic matters.

3. Morale in the School of Engineering has been high this past year but deterioration began to be apparent towards the end of the year. Poor budgets, unsettled administrative leadership and uncertainty were obvious causes of the deterioration. The writer views the new year with some pessimism but hopefully, reorganization of the University, strong support by the Board of Trustees, major long-range planning by Associate Dean Marcus, Professors Mellen and Howards will bring the University back to renewed vigor and optimism.

VI. Acknowledgments

I wish to express again my deep gratitude to the faculty, department heads, colleagues in the Office of the Dean, secretaries, and technicians, for their generous help and dedication during the past year. Without everyone's spirit of cooperation and enthusiasm to continue the development of a quality School of Engineering none of the progress and accomplishment discussed above would have been possible.

The Administration of the University has provided good support to the School considering the seriousness of the State funding and this support is gratefully acknowledged.

Special thanks go to Mrs. Oretta Taylor for again doing the work of two people during the year with a cheerful, happy attitude.

Respectfully submitted,

K. G. Picha, Dean
School of Engineering

APPENDIX I

APPROPRIATION DATA

		1966-67	1967-68	1968-69
01	Salaries, Permanent	$907,307.	$1,164,908.	$1,394,749.
02	Salaries, Other	79,362.	103,375.	120,848.
03	Services, Non-employees	31,500.	38,238.	42,599.
04	Food	100.	100.	100.
10	Travel & Automotive Expense	8,000.	10,994.	13,000.
11	Advertising & Printing	800.	0	0
12	Maintenance, Repairs, Alterations & Replacements	10,500.	11,385.	11,000.
13	Special Supplies & Expenses	24,000.	35,547.	40,330.
14	Office & Admin. Expense	2,000.	2,361.	4,000.
14-1	Telephone (& Equipment)	7,000.	13,197.	14,000.
15	Equipment	59,650.	60,002,	71,000.
15-1	Equipment*	11,150.*		
16	Rentals	8,000.	5,013.	6,500.

*Matching for U. S. Office of Education Equipment Grant

APPENDIX II

PERSONNEL & ORGANIZATION CHART

ORGANIZATION CHART

SCHOOL OF ENGINEERING

DEAN PICHA

ASSOCIATE DEAN LINDSEY
(1968-69 Acting Associate Dean
Roscoe F. Ward)

Curricula
Continuing Education
Physical Plant

COMTECH
Dr. H. D. Segool, Director

STSA
Industrial Liaison
Cooperative Engineering Program

Associate Dean Marcus
(1969-70 Acting Associate Dean
Roscoe F. Ward)
Relations with Community Colleges
Student Advising
Scheduling
Records

M. A. E.	I. E.	E. E.	Ch. E.	C. E.
Dr. Dixon	Dr. Trueswell	Dr. Sheckels	Dr. Eldridge	Dr. White

FLUIDS Interdisciplinary Research Lab	HYBRID COMPUTER Interdisciplinary Research Lab
Dr. Colonell	Dr. Russell

The following table lists the total personnel (full-time equivalent) in the School of Engineering as of September 1968:

	1966	1967	1968
Deans	2	3	3.5
Department Heads	5	5	5
Professors	22	23	35
Associate Professors	24.5	21	33
Assistant Professors	18.5	31	20
Instructors	2	2	1
Lecturers	1	2	2
Visiting Professors	0	0	1
Visiting Associate Professors	0	0	2.5

The following represents the breakdown by rank in each of the five departments (excluding Deans):

	Ch. E.			C. E.			E. E.			I. E.			M.A.E.			BASIC		
	66	67	68	66	67	68	66	67	68	66	67	68	66	67	68	66	67	68
Professors (incl. Heads)	3	3	6	7	9	10	3	3	5	0	1	2	6	6	10	0	1	1
Associate Professors	3	3	4	5	4	9	7	7	8	3	1	3	5	5	8	1.5	1	1
Assistant Professors	2	3	1	4	6	4	4	6	6	2	5	2	4	9	5	3	2	2
Instructors	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	.5	1
Adjunct Assoc. Prof.	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Visiting Assoc. Prof.	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
Visiting Professors	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

APPENDIX III

STUDENTS SERVED

STUDENT DATA

1 STUDENTS SERVED

			Fall '66	Fall '67	Fall '68
1.	Engineering School Totals				
	(a)	(i) Number of Undergraduate Majors	961	960	1004
		(ii) Number of Graduate Students	157	179	196
	(b)	Number of students taught	3078	3534	4053
2.	Chemical Engineering				
	(a)	(i) Number of Undergraduate Majors	84	96	81
		(ii) Number of Graduate Students	46	50	52
	(b)	Number of students taught	159	237	342
3.	Civil Engineering				
	(a)	(i) Number of Undergraduate Majors	167	163	175
		(ii) Number of Graduate Students	46	40	48
	(b)	Number of students taught	753	892	879
4.	Electrical Engineering				
	(a)	(i) Number of Undergraduate Majors	169	177	165
		(ii) Number of Graduate Students	21	28	27
	(b)	Number of students taught	764	834	840
5.	Industrial Engineering				
	(a)	(i) Number of Undergraduate Majors	54	57	68
		(ii) Number of Graduate Students	20	29	24
	(b)	Number of students taught	95	159	211
6.	Mechanical & Aerospace Engineering				
	(a)	(i) Number of Undergraduate Majors	160	189	192
		(ii) Number of Graduate Students	24	32	45
	(b)	Number of students taught	794	916	1164
7.	Undesignated Engineering				
	Basic and Unassigned				
	(a)	Number of Undergraduate Majors	295	278	323
	(b)	Number of students taught		486	617

11 NUMBER OF DEGREES GRANTED

	Sept. '66 to June '67	Sept. '67 to June '68	Sept. '68 to June '69
Bachelor of Science	121	161	161
Master of Science	46	55	65
Doctor of Philosophy	0	3	5
1. Chemical Engineering			
B.S.	12	29	20
M.S.	10	10	5
Ph.D.	0	2	2
2. Civil Engineering			
B.S.	33	35	42
M.S.	12	16	20
Ph.D.	0	1	3
3. Electrical Engineering			
B.S.	33	47	37
M.S.	11	11	16
Ph.D.	0	0	0
4. Industrial Engineering			
B.S.	14	12	15
M.S.	5	7	9
Ph.D.	0	0	0
5. Mechanical Engineering			
B.S.	29	38	40
M.S.	8	11	15
Ph.D.	0	0	0
6. Aerospace Engineering			
B.S.	0	0	7
M.S.	0	0	0
Ph.D.	0	0	0

APPENDIX IV

PROFESSIONAL ACTIVITIES OF THE FACULTY

I. Faculty Publications and Patents

(i) Office of the Dean

S. Seely and K. G. Picha
"Research Proposals Preparation and Sources of Support", ECRC Third Research Administration Workshop, University of Rochester, June 1969

K. G. Picha
Chapter on Research and Education Proceedings of Governor's Conference on "Massachusetts' Stake in the Ocean", December, 1968

(ii) Chemical Engineering Department

J. W. Eldridge and L. C. Koo
"Experiments with Solvent-Free Polymerization of Ethylene on Chromium Oxide", Ind.Eng. Chem. Process Design and Development, Vol. 8, No.2, pp. 217-221, April, 1969

R. L. Laurence and G. Vasudevan
"Performance of a Polymerization Reactor in Cyclic Operation", Ind. Eng. Chem. Pro. Des. and Dev., 7, 427(1968)

R. L. Laurence and C. A. Bayens
"Drop Formation and Simultaneous Mass Transfer", Ind. and Eng. Chem. Fund., 7, 521(1968)

R. L. Laurence with J. Gavis
"Viscous Heating of a Power Law Fluid in Plane Couette Flow", Ind. and Eng. Chem. Fund, 7, 525(1968)

R. L. Laurence with C. A. Bayens
"A Model for Mass Transfer in a Coalescing Dispersion", Ind. and Eng. Chem. Fund, 8, 71(1969)

R. W. Lenz
"Structure, Properties, and Crosslinking Reactions of Poly-(ester acetals)" Macromolecules, Vol. 2, No. 2, pp. 129-135(1969)

"Polymerization Reaction Kinetics", Ind. Eng. Chem., 61, No. 3, pp. 67-75 (1969)

"Macromolecular Reviews: Vol. 3"; Review in Society of Plastics Engineers Journal, Vol. 25, No. 4, p. 108;1969

R. W. Lenz, Editor
"Polymer Preprints", Vol. 9, No. 2, September, 1968,653 pages + t; Vol. 10, No. 1, April, 1969, 511 pages + m

T. J. McAvoy with R. F. Riek and D. C. Chappelear
"Diffusion in Polymer - Solvent Systems. A Study of Numberical Methods of Simulation", Journal of Polymer Science, Part A2, Vol. 6, pp. 1863-1886, Sept. 1968

"Pole Location and Importance in Simple Dead-Time Control Systems", I & EC Fundamentals, Vol. 7, pp. 661-664, November, 1968

L.H.S. Roblee, Jr. with J. B. Dolloff and N. H. Metzger
"Dropwise Condensation of Steam at Elevated Pressures", Chem. Eng. Sci., 24, pp. 571-583 (1969)

W. L. Short and W. M. Bollen
"Ammonia Recovery From an Acid Gas in a Plural Stage, Controlled Distillation Column", U. S. Patent No. 3,404,072, October 1, 1968

W. L. Short, W. M. Bollen and G. H. Goff
"H_2S Recovery by Absorption and Plural Distillation", U.S. Patent No. 3,365,374, January 23, 1968.

W. L. Short, R. T. Skrinde and D. J. Smola
"Reverse Osmosis Treatment of Waste Waters", paper presented at American Chemical Society National Meeting, April 14-18, 1969, Minneapolis, Minnesota

(iv) Civil Engineering Department

D. D. Adrian and P. A. Lutin
"Atmospheric Dispersion of Air Pollutants", Proceedings First Annual Northeastern Anti-Pollution Conference, Kingston, R.I. July 22-24, 1968, pp. 42-48

P. A. Lutin, J. H. Nebiker and D. D. Adrian
"Experimental Refinements in the Determination of Specific Resistance and Coefficient of Compressibility", Proceedings First Annual Northeastern Anti-Pollution Conference, Kingston, R. I., July 22-24, 1968, pp. 120-126

R. J. Giglio, D. D. Adrian, F. C. Kaminsky and R. F. Rikkers
"A Systems Approach to Waste Management", Proceedings Fourth American Water Resources Association Conference, New York, N.Y., November 18-22, 1968 (inpress)

J. H. Nebiker, T. G. Sanders and D. D. Adrian
"An Investigation of Sludge Dewatering Rates", Journal of the Water Pollution Control Federation (in press)

J. H. Nebiker and D. D. Adrian
"Cost Evaluation of Dewatering and Drying Bed Performance", Filtration and Separation Journal (in press)

D. D. Adrian, J. H. Nebiker
"Current Practice in Waste Disposal from Water Treatment Plants", Proceedings American Waterworks Association Research Foundation Symposium on Waste Disposal from Water Treatment Plants, New York, New York (in press)

J. H. Nebiker, T. G. Sanders and D. D. Adrian
"An Investigation of Sludge Dewatering Rates", Proceedings of the 23rd Industrial Wastes Conference, Engineering Bulletin, Purdue University, Vol. LIII, No. 2, April 1969, pp. 832-848

R. R. Archer (with P. K. Hseuh)
"On the Large Deflections of Shallow Rectangular Shell Panels", AIAA Journal

S. M. Bemben
"The Holding Capacity of Marine Anchors in Sand", ASCE publication and oral presentation at ASCE Specialty Conference, Miami, Florida, December, 1969

C. E. Carver
"Oxygen Transfer from Falling Water Droplets", Journal Sanitary Engineering Division, ASCE, April, 1969

A. Chajes
"Inelastic Deflections of Beams", ASCE Structural Journal, June '68

T. H. Feng
"A review of the Literature of 1968 in Wastwater and Water Pollution Control - Benthic Deposits", (accepted and will be published in the June issue of the Journal of Water Pollution Control Federation, 1969

T. H. Feng
"Sediment-Water Interchange of Plant Nutrients in Lakes", accepted for presentation in the Annual Northeastern Regional Antipollution Conference at the University of Rhode Island, and for publication in the Conference proceedings.

L. N. Kuzminski, T. H. Feng, R. T. Skrinde and J. H. Nebiker
"Feasibility of Reducing Environmental Contamination from Solid Wastes by Vapor Phase Disinfection", Proceedings of the Annual Northeastern Regional Antipollution Conference, Univ. of Rhode Is. pp. 142-146, 1968

P. A. Crotty, T. H. Feng, R. T. Skrinde and L. N. Kuzminski
"The Use of Heat to Improve Waste Treatment", Proceedings of the Annual Northeastern Regional Antipollution Conference, University of Rhode Island, pp. 24-30, 1968

D. J. Smola, R. T. Skrinde, L. N. Kuzminski and T. H. Feng
"Reverse Osmosis Treatment of Water and Wastewater", Proceeding of the Annual Northeastern Regional Antipollution Conference, University of Rhode Island, pp. 31-37, 1968

L. N. Kuzminski, G. L. Howard, C. R. Stumbo
"Factors Influencing the Death Kinetics of Spores of Clostridium botulinum 62 A on Exposure to a Dicholorodifluoromethane - ethylene oxide Mixture at Elevated Temperatures" (in press)

L. A. Webster
"Curb Parking and Relationship to Traffic Flow", Highway Research Board, Traffic Operations Division Session, Washington, D. C., January, 1969 (in press)

(v.) Electrical Engineering Department

L. S. Bobrow and S. L. Hamimi
"Generating Variable-Length Codes from Graphs", Proceedings of 3rd Annual Princeton Conference on Info. Sciences and Systems, Vol. 3, March, 1969

L. S. Bobrow and S. L. Hakimi
"Graph Theoretic Prefix Codes and Their Synchronizing Properties", Information and Control, Vol. 14, May, 1969

L. S. Bobrow
"Active Synthesis with Arbitrary RC Source and Load Admittances", IEEE Trans. on Circuit Theory, Vol. CT-16, May, 1969

L. S. Bobrow
"NIC Synthesis with Prescribed Sources and Loads", International Journal of Electronics, Vol. 25, May, 1969

C. E. Hutchinson and J. A. D'Appolito
"Low Sensitivity Filters for the State Estimation in the Presence of Large Parameter Uncertainties", Transactions of IEEE on Automatic Control, July, 1968

C. E. Hutchinson, Y. T. Chon and R. A. Leuchs
"An Analysis of the Effect of Integral and Sigma Pulse Frequency Modulation on White Noise", Information and Control, Vol. 13, No. 3, pp. 173-185, September, 1968

D. R. Jackson and A. J. Giarola
"Asymmetrical Signal Suppression in Parametric Limiters", Proceedings of IEEE, Vol. 56, pp. 1385-1386, August, 1968

R. E. McIntosh with N.P.R. Hansen
"Experimental Observation of the Spontaneous Appearance of Longitudinal Waves in Various Gas Discharges", Proceedings of the 21st Annual Gaseous Electronics Conference, Boulder, Colorado, p. 29, October,1968

R. E. McIntosh with J. A. DeMambro and R. G. Andrews
"RF Generation in a Plasma Column", Bulletin of the American Physical Society, Vol. 13, No. 11, p. 1497, November, 1968

R. E. McIntosh
"Harmonic Generation Inside a Plasma Column at Resonance", IEEE Transactions on Microwave Theory and Techniques, Vol. MIT 16, No. 11, pp. 950-951, November, 1968

R. E. McIntosh
"A Study of Problems Related to the Communication of Pulses Through Ionized Media - An Information Transmission Study", Engineering Research Institute Report, Univ. of Massachusetts, 188 pages, March'69

R. E. McIntosh with J. A. DeMambro
"Nonlinear Behavior of Tonks-Dattner Resonances Due to rf Generation" Journal of Applied Physics, Vol. 40, No. 6, June, 1969

R. E. McIntosh
"Microwave Emission in a Plasma Capacitor", International Journal of Electronics, Vol. 25, No. 6, June, 1969

R. V. Monopoli, J. W. Gilbart and W. D. Thayer
"Model Reference Adaptive Control Based on Liapunov-like Techniques", Proceedings of Second Inernational Federation on Auotomatic Control Symposium on System Sensitivity and Adaptivity, Dubrovnik, Yugoslavia, August, 1968

R. V. Monopoli and B. K. Wylie
"A New Model for Neural Pulse Frequency Modulation", Proceedings of 3rd Annual Princeton Conference on Information Sciences and Systems, Vol. 3, March, 1969

D. Navon and H. A. Miller
"Thermal Instability in Power Transistor Structures", Solid-State Electronics, Vol. 12, pp. 69-78, February, 1969

D. Navon and D. L. Smythe
"Integrating Microelectronics in the Engineering Curriculum", IEEE Transactions on Education, June, 1969.

D. H. Scott
"An Engineering Analysis of the Human Balance Control System", Proceedings of the 21st Annual Conference on Engineering in Medicine and Biology, Houston, Texas, November, 1968.

Ting-wei Tang
"Excitation of Plasma Waves by an Extraordinary Wave in an Inhomogeneous Plasma", Bulletin of the American Physical Society, Series 2, Vol. 13, No. 11, page 1498, November, 1968

Ting-wei Tang and A. Sivasubramsnian
"Effect of Plasma Inhomogeniety on the Propagation of Bernstein's Mode", A. E. Report No. 69-02, University of Connecticut, Storrs, 8 pages, February, 1969

Ting-wei Tang
"On E-mode Propagation in a Warm Plane Stratified Plasma", A. E. Report No. 69-03, University of Connecticut, Storrs, Connecut, 26 pages, March, 1969

Ting-wei Tang and Geroge E. Fox
"Mode Conversion in a Weakly Inhomogeneous Collision-Free Magnetoplasma", A. E. Report No. 69-05, University of Connecticut, Storrs, Connecticut, 45 pages, March, 1969

Ian B. Thomas
"Real-Time Visual Display of Speech Parameters", Proc. N.E.C., 24, 382 (1968)

Ian B. Thomas
"Havoc of Science Research Cuts", Letter to the Editor, New York Times, July 16, 1968, p. 36

Ian B. Thomas, Russell J. Niederjohn
"Enhancement of Speech Intelligibility at High Noise Levels by Filtering and Clipping", J. Audio Engineering Society, 16, 412,(1968)

Ian B. Thomas
"Catalytic Factors in Speech Perception", J. Acoustical Society Am., 45, 316 (1969)

Samuel Seely
"Electronic Circuits", Book, Holt, Rinehart and Winston, January 1, 1969

Ian B. Thomas, R. J. Niederjohn
"Optimization of a Prefiltering Technique for the Production of Speech Highly Immune to Noise", J. Acoustical Society Am., 45,319 (1969)

Ian B. Thomas and Francis E. Flavin
"A Simple Technique for Speech Transposition in Real Time", J. Acoustical Society Am., 45, 315, (1969)

Ian B. Thomas
"The Percieved Pitch of Whispered Vowels", J. Acoustical Society Am., 45, June, 1969 (in press)

D. Wiggert
" A Simple Method of Detecting Decoding Errors with Threshold Decoding", Sixth Annual Allerton Conference on Circuit and System Theory, Univ. of Illinois, October, 1968, pp. 171-180

(vi.) Industrial Engineering Department

Benjamin T. Davies
"Teaching Safe Lifting and Handling in Industry", American Archives of Environmental Health, Submitted March, 1969

"Ergonomics in England", American Archives of Environmental Health, Submitted March, 1969

"Reducing Manual Handling Accidents", American Journal of Safety Engineers, Submitted April, 1969

"Preliminary Investigation of Movement Time Between Brake/Accelerator in Automobiles, Accepted for August, 1969, Human Factors

"Further Investigations of Movement Time Between Brake/Accelerator in Automobiles, Submitted May, 1969

"Pedals and Levers", Encyclopedia of Occupational Health and Safety, International Labour Office, Geneva, Submitted June, 1969

"Indicators and Control Panels", Encyclopedia of Occupational Health and Safety, International Labour Office, Geneva, Submitted June, 1969

"Minimum Voluntary Movements", Submitted Quarterly Journal of Experimental Psychology, April, 1969

Richard J. Giglio
"Deterministic Capacity Expansion", Management Science, Sept., 1968

"Stochastic Capacity Expansion", Management Science, Sept., 1968

Frank C. Kaminsky, R. Giglio, R. Rikkers and D. Adrian
"A Systems Approach to Waste Management", presented at the American Water Resources Association Conference in N.Y.City, Oct., 1968

"Inventory Control With a Randomly Available Discount Purchase Price", Operations Research Quarlerly, 1968 (with A. P.Hurter)

Robert F. Rikkers with Bruce Johnson

"Stochastic Production Inventory Process", Operations Research

Robert F. Rikkers

"Techrometrics, On the Chi Square Goodness of Fit Test with Discrete Observation of a Continuous Random Variable"

Robert F. Rikkers with R. Giglio, D. Adrian, F. Kaminsky

"Systems Analysis Approach to Waste Management", Proceedings of 4th American Water Resources Conference, New York City, November, 1968

Ronald A. Rubel

"Decision Analysis: A Mathematical Aid for clinical Decisions", Medical Times, XCVI, 10, 1033-1040 (October, 1968)

"Decision Analysis for Physicians", Resident Physician

Richard W. Trueswell, A. H. Rubenstein

"Information Searching Behavior of Physicians", submitted to the Journal of Industrial Engineering, New York

"Program Scheduling and Control", submitted to Journal of American Chamber of Commerce Executives, Washington, D. C. (Based on an invited paper given previously to a regional conference of C. of C. executives)

"Some Circulation Data from a Research Library", Vol. 29, No. 6, November, 1968, College and Research Libraries

"User Circulation Satisfaction vs. Size of Holdings at Three Academic Libraries", accepted for publication by College and Research Libraries Vol. 30, No. 3, May, 1969

"Some Interesting Behavioral Patterns of Library Users, e.g., The 80/20 Rule", Vol. 43, No. 5, Wilson Library Bulletin, New York, January, 1969

Analysis of Library User Circulation Requirements, Final Report, January, 1968, supported by NSF Grant GN0435

Richard W. Trueswell, Robert S. Taylor

"A Study of the Impact of Hampshire College on the Libraries of the Five-College Community, February, 1969

(vii.) Mechanical and Aerospace Engineering Department

L. L. Ambs

"Chlorine Flourine Flames - Spatial Velocities & Equibrium Burn Gas Compositions", Combustion & Flame, April, 1968

Geoffrey Boothroyd with A. R. Trim

"Action of the Obstruction Type Chip Former", Int. J. of Prod. Eng. Res., Vol. 6, November 3, 1968

D. E. Cromack

"Analysis of the Effects of Wall Perforations on the Performance of a Vehicle in a Tube", TR PT 6808, December, 1968. Rensselaer Polytechnic Institute, Troy, New York

F. R. E. Crossley with S. L. Haas

"Structural Synthesis of a Fourbit Binary Adding Mechanism", ASME Paper No. 68-Mech-25

F. R. E. Crossley with E. M. Jenkins, Jr. and K. H. Hunt

"Gross Motion Attributes of Certain Spatial Mechanisms", ASME Paper No. 68-Mech-23

F. R. E. Crossley with R. H. Burnes

"The Kineto-static Synthesis of Flexible Link Mechanisms", ASME Paper No. 68-Mech-36

Gabriel Horvay with I. Giaever

"Theory of Dipforming", Poc. Soc. of Engrg. Science, Michigan State University Meeting, published 1968

G. A. McLennan

"An Exact Correction for Accelerometer Error in Dynamic Seismic Analysis", Bulletin of the Seismological Society of America, April, 1969

S. N. B. Murthy

"Viscosity and Compressibility Effects in Secondary Floors", Advances in Engineering Science, 1969

W. A. Nash

"Random Vibrations of a Square Plate", Reports of the 6th International Congress on Acoustics, Vol. IV, pp. 53-56, 1968

"Random Vibrations of Nonlinear Systems", Reports of the 6th International Congress on Acoustics, Vol. IV, pp. 57-60, 1968

C. R. Poli

"Advanced Dynamics - A New Approach?", Bulletin of Mech. Eng. Ed. Vol. 7, pp 319-328, 1968

J. E. Ritter

"Glass-Material for Deep Sea Submersible Vehicles", Glass Industry, November, 1968

"Dynamic Fatigue of Soda-Lime-Silica Glass", Journal of Applied Physics, January, 1969

"Static Fatigue of Acid-Etched, Soda-Lime-Silica Glass Rods", Report NO. THEMIS-UM-69-4, April, 1969 (with D. Vrooman)

J. W. Zahradnik with A. A. Teixeria, J. R. Dixon & G. E. Zinsmeister

"Computer Determination of Spore Surmoil Distributions on Thermally-Processed Conduction-Heated Foods", Food Tech. 3, 78-80, 1969

J. W. Zahradnik

"Bacteria Lethality Predictions During Heating Based on Principles of Similitude", pp 16-19 in Proceedings, Spring 1967 Colloquia

"Interactions Between Engineering and the Biological and Agricultural Services", Biological Engineering Programs, University of Massachusetts, Amherst, Massachusetts, 1969

G. E. Zinsmeister with T. P. Fidelle, Jr.

"A Semi-Discrete Approximate Solution of the Inverse Problem of Transient Heat Conduction", in pamphlet form

G. E. Zinsmeister with A. A. Teixera, J. R. Dixon and J. W. Zahradnik

"Computer Determination of Spore Survival Distributions in Thermally-Processed Conduction-Heated Foods", Food Tech. 3, 1969

M. Vanpee

"Metal Combustion in Flowing Systems", Technical Report presented at the 4th AFOSR Combined Contractors Meeting on Combustion Dynamics Research, Madrid, Spain, July, 1968.

"Excitation Mechanism in Low Pressure Flames", invited seminar presented at the U.S. Bureau of Mines, Pittsburgh, Pennsylvania, September, 1968.

"Excitation Mechanism in Low Pressure Flames", invited seminar presented at Polytechnic Institute of Brooklyn, May, 1969.

(iii) Civil Engineering Department

D. D. Adrian with J. H. Nebiker

"Dewatering Compressible Sludges on Soils", presented at N.E. Branch Agronomy Society of America, Orono, Maine, July, 1968.

"Irrigation and Reclamation Using Sanitary Sludges", presented at Annual Meeting of the Soil Science Society of America, New Orleans, Louisiana, November 1968.

"Current Practice in Waste Disposal from Water Treatment Plants", presented at Am. Waterworks Assoc. Research Foundation Sym. on Waste Disposal from Water Treatment Plants, New York, March 1969.

"Hydraulic Properties of Compressible Sediments", presented at Ann. Meeting of the Am. Geophysical Union, Washington, D.C., April, 1969.

D. D. Adrian with P. A. Lutin

"Atmospheric Dispersion of Air Pollutants", presented at First Annual Northeastern Antipollution Conf., Kingston, R.I., July, 1968.

D. D. Adrian with J. H. Nebiker and P. A. Lutin

"Experimental Refinements in the Determination of Specific Resistance and Coefficient of Compressibility", presented at First Annual Northeastern Antipollution Conf., Kingston, R.I., July, 1968.

D. D. Adrian with J. H. Nebiker and K. M. Lo

"Chemical Conditioning for Dewatering Wastewater Sludge", presented at Am. Chemical Soc. Symposium on Colloid and Surface Chemistry in Air and Water Pollution, Atlantic City, N.J., September, 1968.

D. D. Adrian with K. M. Lo

"A Perturbation Solution to Unsteady Unconfined Ground Water Flow", presented at Ann. Meeting of the Am. Geophysical Union, Washington, D.C., April, 1969.

D. D. Adrian with R. H. Giglio, F. C. Kaminsky and R. F. Rikkers

"A Systems Approach to Waste Management", presented at Am. Water Resources Conf., New York, November, 1968.

R. R. Archer

"Some Bio-Mechanical Models for Growth", presented at Cognitive Information Processing Seminar, M.I.T., April, 1969.

"Physiological Systems Analysis", paper presented at Bio-Engineering Seminar, University of Massachusetts, May, 1969.

J. M. Colonell

"Surface Wave Attenuation for Ocean Engineering Purposes", presented at Joint Themis Symposium, Univ. of Notre Dame, December, 1968.

C. E. Carver

"The Use of Photomicroscopy in the Determination of Non-Newtonian Velocity Profiles", presented at 21st Annual Conf. on Engineering in Biology and Medicine, Houston, Texas, November, 1968.

Panelist on Ocean Engineering Workshop, A.S.E.E., Coast Guard Academy, New London, Connecticut, October, 1968.

A. Chajes

"Models for Stability Analysis", presented at A.S.C.E. Annual Meeting, Pittsburgh, Pa., October, 1968.

"Post-buckling of Plates", presented at CRC Annual Meeting, New York, April, 1969.

T. H. Feng

"Graduate Air Pollution Training Program at the University of Massachusetts", presented at Conf. on Graduate Education in Air Pollution Control, Harvard School of Public Health, April, 1969.

"Nutrients Transformation Phenomena in Lake Waters", presented at Rensselaer Polytechnic Institute, April, 1969.

K. N. Hendrickson

"Foundation Vibration and Stability", presented at University of New Brunswick, November, 1968.

"Pumped Storage - Engineering Geology Aspects", presented at University of New Brunswick, November, 1968.

Geoffrey Boothroyd with G. E. Zinsmeister

"Design of a Stationary Hook Hopper", Automation

F. R. E. Crossley

"Bounds of Stability of Subharmonic Oscillations of a Bi-Stable Oscillator", Proceedings of Second International Congress on Theory of Machines and Mechanisms, Poland, 1969

J. A. Fillo

"Effect of Compressibility and Viscosity in Current Flows: Survey, Recent Advances in Engineering Science, Vol. 4

G. A. McLennan

"Accelerometer Correction for the Dynamic Analysis of Damped Multi-Degree of Freedom Systems", Bulletin of Seicmological Society of America, August, 1969

S. N. B. Murthy

"Isothermals in Non-Constant-Area Tube Arcs", AIAA Journal

W. A. Nash

"Random Vibrations of Thin Elastic Plates Undergoing Finite Amplitude Displacements", accepted for publication in Proc. of the Symposium on Random Processes, to be published by the University of Southampton, England

"Bending of Thin Conical Shells Subject to Asymmetrical Edge Loads", invited paper to be published in B. R. Seth Anniversity Volume

"Random Vibrations of Structural Elements", to be published in Proc. of Second International Conference on Space Engineering, Venice, Italy, May, 1969

C. R. Poli

"On the Free-Free Beam", Bulletin of Mechanical Engineering Ed.

J. E. Ritter with I. Lippert

"Demonstration of the Parameters Involved in Zone Refining Organic Compounds", Journal of Chemical Education

J. W. Zahradnik with A. A. Teixeria, J. R. Dixon and G. E. Zinsmeister

"Computer Optimization of Nutrent Retention in the Thermal Processing of Conduction-Heated Foods", Food Tech. 5, 1969 (also abstracts of the two National Shellfisheries Association papers listed under Papers Presented have been accepted for publication.

G. E. Zinsmeister with G. Boothroyd

"Design of a Stationary Hook Hopper", Automation

G. E. Zinsmeister

"Computer Optimization of Nutrient Retention in the Thermal Processing of Conduction-Heated Foods", Food Tech.

II. Faculty Papers Presented

(i) Office of the Dean

K. G. Picha

"Fire Protection Engineering -- A University Program?", Massachusetts' Fire Protection Engineering Meeting, Newton, Mass., January, 1969

(ii) Chemical Engineering Department

D. C. Chappelear

"Polymerization Reaction Engineering - A Review", invited seminar at at McMaster University, Nov., 1968, and at Stevens Institute of Technology, Dec., 1968.

J. M. Douglas

"Reaction Engineering - What is its Industrial Effectiveness", member of a panel discussion, 61st Annual A.I.Ch.E. Meeting, Los Angeles, Cal., Dec., 1968.

"The Importance of the Structure of the Kinetic Model for Catalytic Reactions", paper presented at the 64th National A.I.Ch.E. Meeting, New Orleans, La., March, 1969.

"Multiple Limit Cycles in a Continuous Stirred Tank Reactor", paper presented at the 65th National A.I.Ch.E. Meeting, Cleveland, Ohio, May, 1969.

"Periodic Operation of Chemical Plants", seminar presented at Yale University, Nov., 1968.

"Definition of Control Problems for Periodic Processing", talk presented at the Cal. Inst. of Technology Annual Industrial Arts Meeting, Dec., 1968.

"Positive Feedback Control of Chemical Reactors", seminar presented at the University of Michigan, May, 1969.

J. W. Eldridge

"Polymerization of Ethylene on Metal Oxides", invited seminar at Worcester Polytechnic Institute, Dec. 16, 1968.

Lenz, R. W.

Seminar presented at Phillips Petroleum Co., Nov. 7-8, 1968.

Seminar presented at Tennessee Eastman Co., Nov. 18, 1968.

Seminar presented at American Cyanamid Co., May 20, 1969.

"Graduate Research in Polymer Science and Engineering at the University of Massachusetts", invited paper presented at the Institute of Textile Technology, April 24, 1969.

Progress in Polymer Chemistry through the Periodic Table," invited paper presented at the American Chemical Society National Meeting, Minneapolis, Minn., April 16, 1969, History of Chemistry Division.

Polycondensation in the Solid State", Metrochem 69 Meeting, New York, invited paper presented on May 2, 1969.

"Polymer Science and Engineering", U. Mass. Engineering Alumni Program, an invited paper presented on June 7, 1969.

Paper presented at American Chemical Society National Meeting, Atlantic City, N. J., September, 1968, Polymer Div.

Center for Professional Advancement, Morristown, N. J., day-long lectures in each of two 5-day short courses: July 22-23, 1968, "Organic-Polymer Chemistry" and Jan. 13-17, 1969, "Organic-Polymer Chemistry".

"Comtech Conference on Materials, Materials Processing and Manufacturing", Univ. of Mass., March 26, 1969 - Session Chairman and evening speaker ("New Polymers").

R. L. Laurence

"Simulation of Polymerization Reactors", seminar presented at Monsanto Company in Springfield, Dec., 1968.

K. N. Hendrickson

"Slope Stability of Mature River Banks", presented at University of New Brunswick, November, 1968.

J. H. Nebiker with R. G. Curran and D. D. Adrian

"Wastewater Disposal. Intergovernmental Challenge", presented at Berkshire Panel for the Public Environment, Williams College, Williamstown, Mass., February, 1969.

J. H. Nebiker with D. D. Adrian

"Sludge Dewatering and Drying Bed Design by Simulation", presented at 2nd National Sym. on Sanitary Engrg. Research, A.S.C.E., Ithaca, New York, July, 1969.

R. T. Skrinde with W. L. Short and D. J. Smola

"Reverse Osmosis Treatment of Wastewaters", presented at Div. of Cellulose, Wood, and Fiber Chemistry, Am. Chem. Soc., Minneapolis, Minnesota, April, 1969.

L. A. Webster

"Curb Parking and Relationship to Traffic Flow", presented at Highway Research Board Meeting, Washington, D.C., January, 1969.

(iv) Electrical Engineering Department

C. E. Hutchinson

"Vehicle Systems and Design: Statistical Error Analyses of Navigation Systems", November 23, 1968. Project Themis, First Annual Internal Symposium, University of Massachusetts.

"Statistical Error Analyses of Navigation Systems", December 13, 1968. First Joint Symposium - Deep Ocean Engineering, University of Notre Dame.

"Control Systems", October 10, 1969. Freshman Orientation Program, University of Massachusetts.

Moderator for Engineering presentations at "The New University of Massachusetts - A view of Science and Engineering", November 8, 1968. University of Massachusetts

"Navigation and Control of Deep Submersibles", May 16, 1968. University of Connecticut, Storrs, Connecticut.

"Systems Engineering", The New School of Engineering - A 1969 View, June 7, 1969. University of Massachusetts.

D. R. Jackson

"Frequency Selective Limiters Using YIG", November 6, 1968. Research Division, Raytheon Company, Waltham, Mass.

D. H. Navon

"Device Technology" and "Digital Field-Effect Transistor Circuits", October 15, 1968. M.I.T. Industrial Liaison Symposium, Massachusetts Institute of Technology, Cambridge, Mass.

D. E. Scott

"The Human Balance Control System", March 5, 1969. Seminar on Bioengineering, Trinity College, Hartford, Connecticut.

"Environmental Factors Affecting the Human Balance Mechanism", April 1, 1969. Agricultural Engineering Seminar, University of Massachusetts.

"Mathematical Techniques for Modeling the Human Balance Control System", April 18, 1969. Bioengineering Seminar, University of Massachusetts.

S. Seely

"Research Proposals", ECRC Meeting, Rochester, New York, November, 1968.

"Controlled Thermonuclear Fission", Western New England College, February, 1969.

T. Tang

"Mode Conversion Across the Upper Hybrid Resonance in an Inhomogeneous Magnetoplasma", February 24, 1969, Yale University.

I. B. Thomas

"Acoustics in the Classroom", to Media School for Teachers of the Deaf, University of Massachusetts, July 3, 1968.

"Technology Today - Electronic Aids for the Deaf", 30 min. TV Show on WHDH, Channel 5, Boston, October 22, 1968.

"Acoustic Correlates of Linguistic Features", to Linguistics Faculty and Students, University of Massachusetts, November 5, 1968.

"Improvement of Articulation through Electronics", to Clarke School Staff and Teachers in Training, University of Massachusetts, November 11, 1968 (Lecture/Demonstration).

I. B. Thomas

"Electronic Media for Articulation Training", to Staff of Willie Ross School for the Deaf, at Media Workshop, University of Massachusetts, January 31, 1969 (Lecture/Demonstration).

"Technical Aspects of the Moog Synthesizer", to Five College Music Faculty, Hampshire College, March 8, 1969.

"Control of Phonation in the Laryngectomy through Electronic Feedback", to "Lost Chord" Club (sponsored by the American Cancer Society), University of Massachusetts, April 8, 1969 (Lecture/Demonstration).

"Prosthetic Aids for the Deaf", to Communication Disorders Society, University of Massachusetts, April 10, 1969. (Lecture/Demonstration).

"A Simple Method for the Correction of Helium Speech", to Project THEMIS Board and Faculty, University of Massachusetts, November 23, 1968 (Lecture/Demonstration).

"Prosthetic Aids for the Deaf", to Engineering Alumni Group, University of Massachusetts, June 7, 1969.

(v) Industrial Engineering Department

R. D. Davis

"One-Machine Sequencing to Minimize Certain Functions of Job Tardiness" by Hamilton Emmons, for OR. The recommended changes were incorporated and the revised version was recommended for acceptance.

"Allocation of Investigative Effort in Multi-Project Decision Cases" by Y. S. Chang, for OR. Recommended rejected.

R. J. Giglio

Seminar at a regular meeting of the Rhode Island Society for Professional Engineers on the engineering applications of Operations Research.

Several (3) professional seminars were given to the staff of TASC on the survey of operations research techniques and applications.

F. C. Kaminsky

Invited seminar at the University of Rhode Island "Application of Queuing Theory to Inventory Systems".

Active membership in the Lower Connecticut Valley of the Operations Research Society of America.

Referee for the ORSA Journal. Reviewed one article during this year on "Priority Queuing". Dr. Kaminsky was requested to do this refereeing by Dr. Marcel Neuts, one of the editors of the Journal.

(vi) Mechanical and Aerospace Engineering Department

Geoffrey Boothroyd

"Mechanized Assembly", ComTech Conference on Materials, Materials Processing and Manufacturing, Univ. of Massachusetts, March, 1969

D. E. Cromack

"Effect of Wall Perforations on the Performance of Vehicles in Tubes", Mechanical & Aero-space Engineering Dept. Seminar, 10/2/68

"On the Flow Field Around a Marine Ducted Propeller", Paper presented at the First Annual Joint Symposium-Engineering for the Deep Ocean, held at the Univ. of Notre Dame, December 13 & 14, 1968

F. R. E. Crossley

"Uses and Structure of Mechanisms", Rensselaer Polytech Institute, April 9, 1969

"Synthesis of Mechanisms", Advanced Lecture Series:Automation Engineering Laboratories, Inc., Stamford, Connecticut, 5/1/69

S. N. B. Murthy

"Combustion Pressure Oscillations in Al and Be Flames Vitiated Atmospheres", 2nd Meeting of the Eastern Section of Combustion Institute, October, 1968

"Physical and Chemical Kinetics of Al, Px and B Flames", 2nd International Conference on Space Engineering, Venice, Italy, May, 1969

W. A. Nash

"Random Vibrations of a Square Plate", presented at Sixth International Congress on Acoustics, Tokyo, August 21-28, 1968

"Random Vibrations of Nonlinear Systems", presented at Sixth International Congress on Acoustics, Tokyo, August 21-28, 1968

J. E. Ritter

"Dynamic Fatigue of Acid-Etched, Soda-Lime Glass", First Northeast Regional Meeting of the American Chemical Society, October, 1968

"Fatigue Strength of Soda-Lime-Silica Glass", Project THEMIS First Annual Joint Symposium, December, 1968

"Fatigue Strength of Silicate Glasses", American Ceramic Society, May, 1969

J. W. Zahradnik

"A Systems Approach to Oyster Propagation off the Bottom (I) Optimization of Yield Estimates Subject to the Constraint of Pumping Cost Estimates", presented at the National Shellfisheries Association Meeting in Washington, D. C., July 14-18, 1968 (with Pasko and C. A. Johnson)

"A Systems Approach to Oyster Propagationoff the Bottom (II) Unit Reactor Concepts Applied to Experimental Determination of Water Requirements for Juvenile Oysters - A Progress Report", presented at the National Shellfisheries Association Meeting in Washington, D. C., July 14-18, 1968 (with C. A. Johnson, W. Pasko and E. A. Johnson)

"Methods for Determining Gas Leakage for C-A Storage Rooms", at 1968 Winter Meeting Am. Soc. Agr. Engrs., December 10-13, Sherman House, Chicago, Illinois

"Design and Construction of C-A Storages with an External Gas Seal", National Controller Atmosphere Research Conference, Jan.27-28, 1969, Kellogg Center, Michigan State University

"The Concept of Residence-Time Distribution and an Example of its Significance in Continuous Thermal Processing", Inst. of Food Technology, N. E. Section Food Engrg. Symposium, Kresge Aud., January 21, 1969, MIT, Cambridge, Massachusetts

"Evaluation of Lethality and Nutrient Retentions of Conduction - Heating Foods in Rectangular Containers", Annual Meeting Inst. of Food Tech. Conrad Hilton, May 11-15, 1969, Chicago, Illinois (with J. E. Manson and C. R. Stumbo)

G. E. Zinsmeister

"A Semi-Discrete Approximate Solution of the Inverse Problem of Transient Heat Conduction", A.S.M.E. Winter Annual Meeting, New York, December 1-5, 1968

(vii)Basic Engineering

K. E. Kroner

"Look Beyond", Engineering Graphics, Winter 1969, Vol. 33, No. 1, pages 3 and 25

"Engineering Graphics in the Two-year Colleges. A report on the Education Relations Committee", Engineering Graphics, Winter 1969, Vol. 33, No. 1, pages 6 and 7

III. Grants

(i) K. G. Picha and C. E. Carver

Project THEMIS Support of Research on Deep Sea Submersibles, $180,000/yr from 1967-72

J. S. Marcus and C. A. Wogrin

Summer Institute - The Man-Made World NSF Grant $44,681. Summer, 1969

(ii) Chemical Engineering Department

J. M. Douglas

NSF Grant GK4556, "Periodic Performance of Chemical Processes", Sept. 15, 1968 - Sept. 15, 1970, $57,600.

PRF Grant #3398-A6, "Approximate Solutions of Optimization Problems Using Perturbation Theory", July 1, 1968 - August 31, 1970, $20,640

J. W. Eldridge

Themis Contract, N00014-68-A-0146-4, "New Composite Materials via Direct Polymerization on or in Catalyst-Carrying Substrates", Sept. 1, 1968 - Aug. 31, 1969, $12,343

R. S. Kirk

Themis Contract, N00014-68-A-0146-11, "Kinetics of Ebullient Bed Reactors", Sept. 1, 1968 - Aug. 31, 1969, $6,997

R. W. Lenz

Themis Contract, N00014-68-A-0146-4, "Preparation and Evaluation of New Polymers", Sept. 1, 1968 - Aug. 31, 1969 $11,781

L. H. S. Roblee, Jr.

ONR Contract #3357(02), "A Study of Mercury Condensation", Dec. 1, 1968 - Aug. 31, 1969, $13,257.

W. L. Short (as P.I. with Dr. Skrinde as Co-P.I.)

PHS Grant 1 R01 AP 00791, "SO_2 and NO_x Removal from Stack Gases by CO", Feb. 1, 1969 - Jan. 31, 1972, $130,600

W. L. Short (as Co-P.I. with Dr. Skrinde as P.I.)

FWPCA Grant WP 01408, "Reverse Osmosis Treatment of Wastewaters", June 1, 1968 - May 31, 1969, $50,508. (Now renewed to 5/31/70.)

Water Resources grant - Thermal Pollution 7/68 - 6/69 - $2,000

M. Vanpee

Bureau of Mines complete stipend support for one graduate student (renewable for 5 years), Contract No. 14-09-0050-3090.

(iii) Civil Engineering Department

D. D. Adrian

USPHS: "Source Control of Water Treatment Waste Solids", $40,336/year x 2 years

Mass. WRRC: "A Methodology for Planning Optimal Waste Management", $41,200/year x 3 years

S. M. Bemben

DOD-Themis: "An Investigation for the Establishment of Design Criteria for Underwater Anchorages", $9,000/yr.

C. E. Carver

ONR: "Photomicroscopic Investigation of Non-Newtonian Flows", $12,000/year

DOD-Themis: "Feasibility Study of Pneumatic Breakwaters" $16,000/year

A. Chajes, F. Dzialo, M. Miller, M. White

DOD-Navy: "Influence of Ship Mobility on the Stresses Produced by Nuclear Blast", $20,000

A. Chajes, M. Miller

DOD-Themis: "Non-linear Behavior of Hull Structures", $8,500/year

F. Dzialo

DOD-Themis: "Impact Loading of Submarine Hulls", $9,200/year

T. Feng

Army Med. Res. and Dev. Command: "Effects of Chemical Impurities in Water on Disinfection by Halogens", $30,995/year

FWPCA: "Water Supply and Pollution Control", $53,314/year x 4 years

USPHS: "Environmental Health", $23,050/year x 5 years

USPHS: "Water Quality Engineering", $17,228/year x 3 years

Mass. WRRC: "Control of Benthic Deposits in Lakes", $30,995/year x 1 year

W. Heronemus

DOD-Themis: "Deep Submergence Vehicle System Design", $14,500/year

G. Higgins

Mass. WRRC: "Hydrological Studies in Massachusetts", $5,000/year

R. Skrinde

FWPCA: "Reverse Osmosis Treatment of Wastewaters", $34,300/year x 3 years

(iv) Electrical Engineering Department

D. Jackson

"Parallel Pumping of Elastic Modes in Ferri-magnetic Crystals", National Science Foundation, Grant GK-4945, $15,000 from April 1, 1969, to Aug. 31, 1970, support for one graduate student.

R. McIntosh

"Optimum Pulse Transmission Through Dispersive Media", National Science Foundation, Grant GK-4897, $15,000 from April 1, 1969 to August 31, 1970, support for two graduate students.

R. McTosh and T. Tang

"The Propogation of High Energy Pulses in Ionized Media", Air Force Office of Scientific Research, Grant AFOSR-69-1722, $35,000 from Feb. 1, 1969 to Jan. 30, 1971, support for two graduate students.

R. McIntosh and I. Thomas

"An Information Transmission Study", National Aeronautics and Space Administration, Contract NAS-12-606, extended from February 1, 1969 to August 31, 1969 and supplemented with $23,000. Prof. Sheckels Contract Manager, support for three graduate students.

R. Monopoli

"Automatic Control Systems Instructional Scientific Equipment Grant", National Science Foundation, Grant GY-6612, $20,600 matching funds from July 1, 1969 to May 31, 1971.

R. Monopoli and C. Hutchinson

"Pulse Frequency Modulated Control Systems", National Aeronautics and Space Administration Grant NGR 22-010-018, extended from February 1969 to February 1970, and supplemented with $8,000, support for one Graduate Student.

R. Monopoli and C. Hutchinson

"Inortial Navigation for Deep Sea Submersibles", Department of Defense THEMIS Grant N00014-68-0146-6, extended from Sept. 1, 1968 to Sept. 1, 1969 and supplemented with $5,000 support for two graduate students.

I. Thomas

"Speech Analyzing Aids for the Deaf", Department of Health, Education and Welfare, Grant 1 R01 NB08306-01A1, $22,725 from May 1, 1969 to April 20, 1970, support for two graduate students.

"Prosthetic Aids for the Deaf", Grant of $4,500 from Rev. and Mrs. Howard C. Shaffer, support for one graduate student .

(v) Industrial Engineering Department

R. Giglio, F. Kaminsky and R. Rikkers

"A Methodology for Planning Optimal Water Management Systems Total Federal Funds $154,342. Approximately $100,000 for I. E. Three graduate students and three faculty members were supported during the past year.

F. Kaminsky, R. Rikkers and E. Rising

"Spoke Design for In-Patient Care", Public Health Service. Awarded to Franklin County Public Hospital for three years at a total of $200,000. Simulation Model by Dr. Rikkers may be extended into further research. Scheduling and prediction models may also be extended.

Franklin County Hospital Project supported three undergraduate students during academic year at one day per week plus full-time during summer, R. Fifield, T. Mitchell and R. Champigny. No graduate student supported this year. These students used the GE time-sharing equipment and provided statistical analysis of data. They also supervised and trained data takers who were hired from local resources.

R. Trueswell

"Analysis of Library User Circulation Requirements", Time Extension expires August 30, 1969, $14,400.

(vi) Mechanical and Aerospace Engineering Department

G. Boothroyd with G. E. Zinsmeister

Undergraduate research participation, NSF 1969-70, $7,450

G. Boothroyd

G. E. Research Grant 1969-70-71, $5,000 per year

Instructional Scientific Equipment, $40,800

W. A. Nash

A Proposal for research equipment, funded by NSF, March 31, 1969 for $27,000, funds to be spent by March 31, 1970.

J. W. Zahradnik

Shellfish Marculture Demonstration, COMTECH Project No. Mass-69107(A), $11,400, May 1, 1969 - January 30, 1970 (with C. Johnson)

Radiation Facility of Research on Foods, U1-RH00818-01, HEW, $25,000.

IV. Consulting and Other Professional Activities

(i) Dean's Office

K. G. Picha

Consultant NSF Division of Institutional Programs, made site visits on University Science Development and Departmental Development Consultant, University of North Carolina -- Charlotte

ECPD Evaluation Visits

Chairman, ASEE Subcommittee on RElations with the Office of Education

ASME Committee: Fluid Mechanics

ASEE Committee on Relations with Federal Government

Chairman, ASEE Curtis McGraw Research Award Committee

Governor's Committee on Traffic Safety

Chairman, Panel on Research and Education, Governor's Conference, "Massachusetts Stake in the Oceans"

Massachusetts Association of Marine Sciences

Board of Higher Education Committee on Marine Science and Oceanography

National Air Pollution Control Manpower Development Advisory Committee

ECPD, Engineering Education Accreditation Committee, Vice Chairman, Region V

State Task Force, Vocational Education

Invited Participant, New England Regional American Assembly Uses of the Seas

J. S. Marcus

Advisory Council, Northern New England Junior Science and Humanities Symposium

New England Regional Accreditation Visitor (two community colleges)

H. D. Segool

Chairman, GACSAT Subcommittee on Federal Support Programs

GACSAT Subcommittee on Industrial Conversion (Contract with Harvard Economic Research Project)

GACSAT Subcommittee to Formulate Legislation for a Proposed Massachusetts Science and Technology Foundation (H.46 and S.1432)

GACSAT Subcommittee on Aims and Goals

GACSAT delegate to the Eastern States - NSF Steering Committee, "EASTERN REGIONAL CONFERENCE ON APPLICATIONS OF SCIENCE AND TECHNOLOGY TO PROBLEMS OF URBANIZATION"

Chaired a panel on Institutional Cooperation at the Annual Fall Meeting New England Section, ASEE, at the U. S. Coast Guard Academy in October, 1968

(ii) Basic Engineering Department

C. R. Bissey

Consultant to the Physical Plant of the University

K. E. Kroner

Evaluator for the Western New England College Student Project In Springfield on May 8, 1969

F. G. Umholtz

Consultant to Russell Harrington Company in product development

Worked with his students to present a program on TV of their designs from their Engineering 307 and 385 courses on WWLP

G. P. Weidmann

Faculty Senate Committee on Committees

(iii) Chemical Engineering Department

J. W. Eldridge

Consulting, The M. W. Kellogg Company, Piscataway, N. J.

AIChE Professional Development Committee

K. D. Cashin

AIChE Equipment Testing Procedures Committee

ASEE Energy Conversion Committee

D. C. Chappelear

AIChE, Western Mass. Section Director

J. M. Douglas

AIChE National Program Committee Area 3e - Chemical Reaction Engineering, Chairman
AIChE Nominating Committee
Member of Organization Committee for the First International Symposium on Chemical Reaction Engineering
Publications Committee, Chemical Engineering Education

R. W. Lenz

Esso Research and Engineering Co., Baytown, Texas - Consulting
Chairman, Lectureship Committee of the Fiber Society
Chairman, Publications Committee, Polymer Division, ACS
Editor, Polymer Preprints and responsible for acceptance of papers organization of the General Papers Sessions of the Polymer Division at national ACS meetings
Member, Editorial Advisors Board, "Marcromolecules"
Member, Advisory Board, "Journal of Polymer Science, Part "A"

W. L. Short

Arthur D. Little and Company, Cambridge, Mass. - Consulting
Kenics Corporation, Danvers, Massachusetts "
The M. W. Kellogg Company, Piscataway, N. J. "

AIChE, National Program Committee, Thermodynamics
AIChE, Inorganic Chemicals

M. Vanpee

Thiokol Chemical Corporation, Denville, N. J. - Consulting

(iv) Civil Engineering Department

R. R. Archer

Doing research in Biomechanics at MIT Laboratory of Electronics under a PHS Special Research Fellowship 4/5 time

R. T. Skrinde

HEW Advisory Committee for the Engineering and Urban Health Sciences Study Section - Consultant
Bureau of Environmental Sanitation, Massachusetts Health Department - Consultant

K. N. Hendrickson

U. M. Astronomy Department consultant in connection with the radio telescope
U. M. Physical Plant consultant on foundations problems of the new Student Center
Greenfield Community College consultant in planning a course in Soil Mechanics

M. P. White

Member of two National Academy of Sciences Advisory Committees on Civil Defense and on ESSA
Advisory Committee on Reactor Safeguards, AEC, Consultant

W. W. Boyer

University of Massachusetts' Distinguished Teacher Award

A. Chajes

Administering the Column Research Council research grant of $1000.

Professors D. Adrian, C. E. Carver and W. E. Heronemus

Presented Radio or Television Programs, "Technology Today" series

(v) Electrical Engineering Department

C. E. Hutchinson

Analytical Sciences Corporation, Reading, Mass. - Consultant
Chairman of National Publicity Committee of Eta Kappa Nu

D. R. Jackson

Raytheon Company, Waltham, Mass., Frequency Selective Limiters - Consultant

R. V. Monopoli

Editorial work on an electronics book for the McMillan Company

1969 Annual Fall ASEE Meeting Planning Committee

First International Conference on Differential Game Theory, local arrangements Committee

G. D. Sheckels

Manuscript review for Addison-Wesley Publishing Company

Chairman, Finance Committee for Town of Amherst

Secretary, Amherst Rotary Club

S. T. Maunder

Commissioner for Gas and Electric Department, City of Holyoke

D. H. Navon

Consulting with Luxtron, Inc., Haverhill, Mass., D. Olivetti & Company, S.P.A., Aprilia, Italy, Avco Corporation, Lowell, Mass., Tyco Corporation, Waltham, Mass., Advisory Board of Chemical Rubber Company. "Handbook of Tables for Applied Engineering Science"

I. B. Thomas

Consulting - The Clarke School for the Deaf, Northampton, Prosthetic Aids for the Deaf: The Willie Ross School for the Deaf, Longmeadow, Prosthetic Aids for the Deaf; Scripta/Technica, Inc., Washington, D. C., Translation of Russian to English; Hampshire College, Amherst, Consultant on Electronic Music Studio.
Member and on Board of Directors of the Hampshire County Mental Health Association; Co-chairman of the Mental Health Fund-Raising Drive for Town of Amherst, May, 1969; Member and nominated for Secretary of the Area Mental Health Board for Hampshire and Franklin Counties, State Department of Mental Health; Member of and Technical Consultant to the Five College Committee for the Hampshire College Electronic Music Studio

S. Seely

Consultant to U. S. Army Research Office, Durham, N. C.; Consultant to U. S. Army Missile Command, Huntsville, Alabama

(vi) Industrial Engineering Department

R. J. Giglio

The Analytical Sciences Corporation (TASC) in the area of search theory, biomedical cardiac system modeling

R. Shriver, Associates, Production Scheduling

R. A. Rubel

Franklin County Public Hospital, "Introduction of I. E. Methods and Work Simplification".

R. W. Trueswell

Nonotuck Mfg, Production Cost Stds. by Computer. A. H. Rubenstein Information Searching Behavior of Scientists

ECPD Curriculum Inspector for Industrial Engineering

National Representative of JETS to AIIE

(vii) Mechanical and Aerospace Engineering Department

L. L. Ambs

Freshman Engineering Committee

Helped organize Eastern States Section of C. I. Meeting in October, 1968

M. E. Bates

ECPD Student Development Committee

Consulting for John C. Meyer Thread Co., Worcester, Massachusetts

G. Boothroyd

Organized ComTech Conference on Materials, Materials Processing and Manufacturing

USASI B-94 TC-3, Basic Nomenclature of Cutting Tools, Comm. Member

Consulting, Greenfield Tap & Die and McGraw Hill Book Company

A. J. Costa

Ad Hoc Committee AAUP - Faculty Role in Long-Range Planning

Holyoke Community College Machine Tech. Advisory Board

AAUP, Treasurer Local Chapter

A. J. Costa (Continued)

Personnel Interview and Review Board

Collective Bargaining Committee

Supervise, Estimater, new construction or remodeling

D. E. Cromack

Member IDL Fluids Lab Committee

F.R.E. Crossley

Chairman, Tenth Mechanisms Conference, ASME, October 7-9, 1968, Atlanta, Georgia

Elected Fellows, ASME, November, 1968

Elected President, United States Council for the Theory of Machines and Mechanisms, October, 1968

Editor-In-Chief, Journal of Mechanisms (Pergamon Press), and International Scientific quarterly

Chief U. S. Delegate, International Coordinating Committee for Theory of Mechanisms and Machines, Meeting in Varna, Bulgaria, July 2-5, 1969

R. W. Day

AIAA Student Affairs Committee (National)

Chairman, Undergraduate Committee

Department Faculty-Student Education Council

AIAA Student Advisor

J. H. Dittfach

University Committee on Scholarship, Placement and Financial Aid

School Committee Chairman to arrange faculty meetings for informal discussions

J. A. Fillo

Sigma XI Research Award Committee

G. Horvay

K-S Committee on Fundamental Research of Heat Transfer Division of ASME

Committee on Letter Symbols by Solid Mechanics of ASME

J. G. McGowan

Reviewer, Applied Mechanics Reviews

Teetor Educator Award, Society of Automotive Engineering

S. N. B. Murthy

Arranged as local secretary at meeting of the Eastern Section of Combustion Institute at the University of Massachusetts

Member of the Subcommittee of USGON - I CRPG on Intets and Noise

Member of IDL Fluids Committee

Member of Department Graduate Committee

Arranging a Conference on Boundary Layer Concepts in Fluid Dynamics (with J. A. Fillo)

W. A. Nash

Publish International Journal of Nonlinear Mechanics Quarterly

Act as Sponsor of Plates and Shells Division of ASME

Consult with Flight Dynamics Laboratory of Wright-Patterson Air Force Base

Consult with Department of State

Consult with General Electric Company

Act as Associate Editor of Applied Mechanics Reviews

Review many research proposals for NSF, AROD and ONR

Writing graduate level book on plate theory

C. W. Nelson

Two senior projects in conjunction with Cushioned Products Corp.

J. M. O'Byrne

Department of MAE Laboratory Committee

Consult Chapin & Neal, Springfield, engineering expert witness

ASME Chairman, Public Affairs, Western Massachusetts Section

NASA Engineer, Marshall Space Flight Center, Huntsville, Ala. Summer, 1968, post-Apollo deep space missions, heat transfer applications

R. K. Patterson

Cooperative Education Conference, Flint, Michigan

Faculty Senate

Undergraduate Curriculum Committee

C. R. Poli

Chairman of Aero-space Graduate Committee

Consultant at Pratt & Whitmey Aircraft, Summer 1968

Reviewed several papers for Applied Mechanics Reviews

J. E. Ritter

Attended First Northeast Regional Meeting of the American Chemical Society, Boston, October 1968

Attended Naval Research Laboratory Conference on Glass, Washington, D. C., October 1968

Attended Project THEMIS First Annual Joint Symposium, Notre Dame University, December 1968

Attended (Chairman for two sessions) Conference on Materials, Materials Processing and Manufacturing, Univ. of Mass., March 1969

Attended Annual Conference on American Ceramic Society, Washington, D. C., May 1969

Mechanical Engineering Undergraduate Committee

Mechanical Engineering Materials Committee

Materials Interdisciplinary Committee

Faculty Senate

J. W. Zahradnik

Chemical American Society Agr. Engr. Food Engineering Division

Member, Public Relations and Intersociety Liaison Committee, Am. Sci. Ag. Engrg.

Chairman, C-A Storage Tech. Comm., Am. Soc. Ag. Engr.

Member ASME Food, Drug and Beverage Comm.

Chairman, UMass Senate Service Dept. Comm.

Member, UMass Ad Hoc Long-Range Planning Comm.

Faculty Advisor, Crew Club

Chairman Elect, Am. Soc. Ag. Engr. Bio-engineering Comm.

PhD Committees: Chairman, Stevens, Manson, Tiexiera, Prirnhut, Jen.

A N N U A L R E P O R T

School of Home Economics
University of Massachusetts

July 1, 1968 - June 30, 1969.

Submitted by: Helen G. Canoyer

Helen G. Canoyer, Dean

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Reports of:

Activities of Recruitment Office

Home Economics Extension Division

Department of Home Economics Education

Department of Human Development

Department of Management & Family Economics

Department of Nutrition and Food

Department of Textiles, Clothing & Environmental Arts

I. APPROPRIATIONS

1966-67	$ 27,635.00
1967-68	36,353.00
1968-69	28,367.19

II. PERSONNEL

a. RANK	Sept. 1966	Sept. 1967	Sept. 1968
Professors (including School Head)	2	2	3
Professors "A"	4	4	3
Assoc. Professors	4 (50% time)	4	2
Assoc. Prof. "A"	4	7	7
Assistant Professors	6	6	9
Assist. Prof. "A"	1	1	1
Instructors	2	2	1
Lecturers (part time)	4	7	6
Lecturer "A" (part time)	-	-	1
	30	33	33

b. FACULTY ON LEAVE

Mrs. Marjorie F. Sullivan - Sabbatical (2nd semester)

c. APPOINTMENTS, PROMOTIONS, & MERIT INCREASES, ETC.

Merit Increases (Feb. 1969)

Dr. Mark H. Bert

Mrs. Ruth C. Boicourt

Joseph D. Burroughs

Dr. Verda M. Dale

Dorothy Davis

Virginia Davis

Terrence J. Dumas

Winifred I. Eastwood

Sarah L. Hawes

Mrs. Rosa S. Johnston

Dr. Mary E. Lojkin

Mrs. Jane F. McCullough

Marjorie M. Merchant

Dr. Ellis G. Olim

Herbert S. Paston

Mrs. Catharine C. Porter

Mrs. Marjorie F. Sullivan

Helen R. Vaznaian

Harriet J. Wright

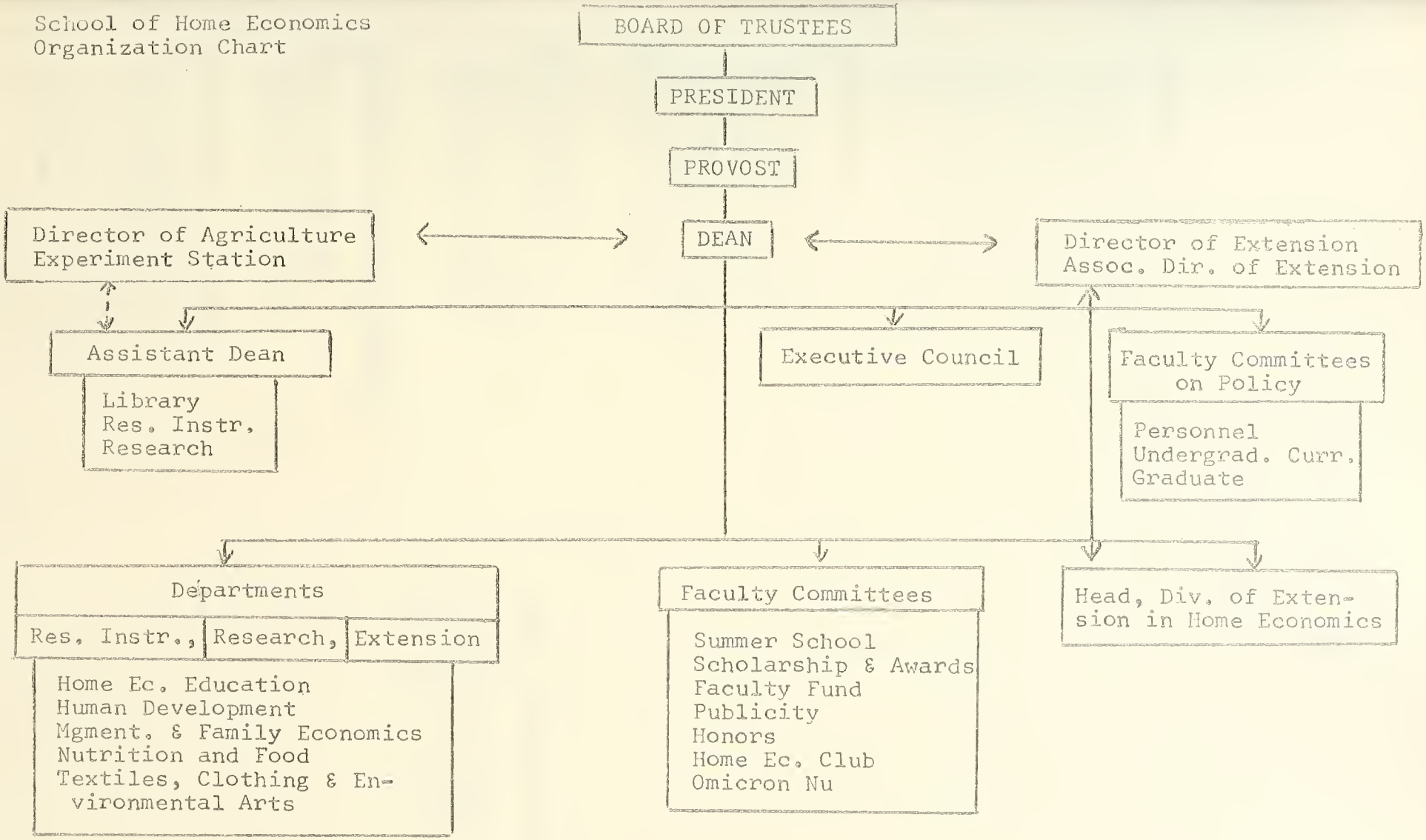
d. RESIGNATIONS - None.

e. RETIREMENTS - None.

f. TERMINATIONS

Dr. Elizabeth M. Rust

School of Home Economics
Organization Chart



June 1969:m

UNIVERSITY OF MASSACHUSETTS
SCHOOL OF HOME ECONOMICS

ORGANIZATION PATTERN
1968 - 69

TEXTILES, CLOTHING & ENVIRONMENTAL ARTS

Head - Sarah L. Hawes
Virginia Davis
Mrs. Rosa S. Johnston
Dr. Marion A. Niederpruem
Herbert S. Paston
Mrs. Catharine Porter
Mrs. Pamela Purdy
Eleanor E. Randall
Mrs. Margarett Randall

NUTRITION AND FOOD

Head - Dr. Mark H. Bert
Mrs. Ruth C. Boicourt
Dorothy Davis
Dr. Mary E. Lojkin
Mrs. Jane F. McCullough
Dr. Elizabeth M. Rust
Dr. K. Padma Umapathy
Harriet J. Wright

HUMAN DEVELOPMENT

Head - Dr. Ellis G. Olim
Joseph D. Burroughs
Dr. Roberta Collard
Mrs. Barbara Turner

Nursery School Teachers

Terrence J. Dumas
Mrs. Helen E. Harvey
Mrs. Anna S. Russell
Mrs. Ruth G. Smith

MANAGEMENT & FAMILY ECONOMICS

Head - Verda M. Dale
Edward K. Knapp
Marjorie M. Merchant

HOME ECONOMICS EDUCATION

Head - Helen R. Vaznaian
Winifred Eastwood
Marjorie F. Sullivan

9/18/68:kmc

IV. STUDENTS

	Sept. 1966	Sept. 1967	Sept. 1968
a. Number of majors, undergrad.	387	500	543
Number of majors, graduate	26	34	30

	1966		1967		1968	
	1st	2nd	1st	2nd	1st	2nd
b. No. students taught each sem.(undergrad. & grad.)	1135	1312	1376	1567	1517	1633
No. of non-majors	299	411	317	418	402	451
No. of courses offered	38	45	43	51	40	48

c. Current data on enrollment figures - see pages 7 and 8.

SCHOOL OF HOME ECONOMICS

ENROLLMENT BY MAJORS -- SEPTEMBER 1968

CHILD DEVELOPMENT

Class of 1969	-	34
Class of 1970	-	54
Class of 1971	-	32
Class of 1972	-	14
		134

DIETETICS AND INSTITUTIONAL ADMINISTRATION

Class of 1969	-	13
Class of 1970	-	5
Class of 1971	-	11
Class of 1972	-	8
Non-Classified	-	1
		38

NUTRITION AND FOODS IN BUSINESS

Class of 1969	-	3
Class of 1970	-	3
Class of 1971	-	6
Class of 1972	-	6
		18

HOME ECONOMICS EDUCATION

Class of 1969	-	30
Class of 1970	-	25
Class of 1971	-	30
Class of 1972	-	19
		104

FASHION MERCHANDISING

Class of 1969	-	48
Class of 1970	-	53
Class of 1971	-	86
Class of 1972	-	53
Non-Classified	-	1
		241

ENROLLMENT BY MAJORS

Child Development	- 134
Dietetics and Institutional Administration	- 38
Nutrition and Food in Business	- 18
Home Economics Education	- 104
Fashion Merchandising	- 241
Undecided - Class of 1972	- 8
TOTAL ENROLLMENT	543

SCHOOL OF HOME ECONOMICS UNDERGRADUATE ENROLLMENT
FALL 1961 -- FALL 1968

Fall Semester 1961		
Freshman		- 26
Sophomore		- 34
Junior		- 26
Senior		- 30
	Total	116
Fall Semester 1962		
Freshman		- 37
Sophomore		- 32
Junior		- 40
Senior		- 28
	Total	137
Fall Semester 1963		
Freshman		- 62
Sophomore		- 44
Junior		- 35
Senior		- 36
	Total	177
Fall Semester 1964		
Freshman		- 74
Sophomore		- 63
Junior		- 40
Senior		- 33
Non-Classified		- 3
	Total	213
Fall Semester 1965		
Freshman		-101
Sophomore		- 94
Junior		- 53
Senior		- 36
Non-Classified		- 5
	Total	289
Fall Semester 1966		
Freshman		-114
Sophomore		-111
Junior		-109
Senior		- 49
Non-Classified		- 4
	Total	387
Fall Semester 1967		
Freshman		-134
Sophomore		-129
Junior		-135
Senior		- 99
Non-Classified		- 3
	Total	500
Fall Semester 1968		
Freshman		-108
Sophomore		-165
Junior		-140
Senior		-128
Non-Classified		- 2
	Total	543

Percentage of Increase - Fall 1961 to Fall 1968---------- 368.10%

4/30/69:h

V. PUBLICATIONS AND MEETINGS

Dean Helen G. Canoyer

PUBLICATIONS:

Annual Report (Forty-Second) of the New York State College of Home Economics - Legislative Document No. 88, 1968, (printed); 87 pages.

MEETINGS ATTENDED:

Grand Union Board Meetings - monthly.
(Also a member of the Board's Retirement Fund Committee).

Association of Home Economics Administrators, Oct. 9-11, 1968, New Orleans, La.

Spoke at the Hampden County Teachers Association Meeting, Springfield, Mass., Oct. 18, 1968.

Spoke at the Extension Conference, Lenox, Mass., April 16, 1969.

Spoke at University Day for Women Luncheon, June 4, 1969.

Spoke at School of Home Economics Alumnae Annual Meeting, June 4, 1969.

PROFESSIONAL ORGANIZATIONS & COMMITTEES:

Member:

Alpha Lambda Delta
American Association of University Professors
American Economics Association
American Home Economics Association
American Marketing Association, Central New York Chapter, AMA
Association of N.Y.S. Home Demonstration Agents (Honorary)
Delta Sigma Rho
Epsilon Sigma Phi (Honorary)
International Federation of Home Economics
National Education Association
Omicron Nu
Phi Kappa Phi

Member of Board of Directors, Grand Union Co.
Member of Woman's Council, N. Y. State Dept. of Commerce
Committee on Consumer Interests
Committee on Education
Women's Committee, New York State Exposition

HONOR

Helen G. Canoyer Undergraduate Scholarship, established at Cornell University.

Dr. Christine H. Hillman, Assistant Dean

PUBLICATIONS:

Barbara H. Settler and Christine H. Hillman, "Younger Families in the Rural Fringe." Journal of Cooperative Extension, Vol. Vii, No. 1 (Spring 1969); pp 35-42.

MEETINGS ATTENDED:

Northeast Association of Administrators in State Universities and Land Grant Colleges, Statler-Hilton Hotel, New York City, March 12-14, 1969.

The Cooperative Extension (U.Mass.) Annual Conference, Lenox, Mass., April 16. Gave a talk and participated in a seminar.

The New England Chapter of the National Home Fashion League, Inc., Annual Meeting and Awards Luncheon held in Boston, May 22. Spoke to the group relative to the organization and opportunities in the School of Home Economics at the University of Massachusetts, and accepted a check for $200 in behalf of the School.

The Annual Meeting of the American Home Economics Association, Boston, Mass., June 23-27. Will act in the capacity of an official hostess representing the state and the University of Massachusetts.

PROFESSIONAL ORGANIZATIONS & COMMITTEES:

Member:

The National Council on Family Relations
The Ohio Council on Family Relations
The Massachusetts Council on Family Relations
The Society for Research in Child Development
The American Home Economics Association
The American Sociological Society
The Massachusetts Sociological Association

The American Association of University Professors
Phi Upsilon Omicron - National Home Economics honorary fraternity

VI. MAJOR ACCOMPLISHMENTS DURING 1968-69.

Although each of the Departments have reported major accomplishments viewed from a department vantage point, I shall list the accomplishments of the School from the viewpoint of Dean.

1. One of the first requests made of me by this faculty last September was to permit and arrange for greater faculty participation and influence in School policy and operation. I have tried to satisfy this strongly felt need in several ways, namely:

   a. Placed more responsibility on Department Heads for disbursement of certain budget accounts; discussed important policy matters with them and listened to their advice; urged them to evaluate curricula and participate in the overall Undergraduate Curriculum Committee's thorough evaluation of the School's curriculum; and made a start at setting up faculty committees which truly represent the faculty and are not appointed by the Dean.

   b. Members of the Undergraduate Curriculum Committee worked diligently throughout the year in an attempt to loosen requirements (providing more electives and requiring fewer professional courses). The object is to conform with the trend in higher education today by moving away from narrow professional specialization at the undergraduate level.

   The task is complicated and has not been completed as yet. However, considerable progress has been made.

   c. Succeeded in the establishment of a Student-Faculty Committee in each department.

   d. Worked closely with the Personnel Committee on matters of salary increases, promotion, reappointment and tenure.

e. My recommendation that the School establish a Dean's List was voted on favorably by the faculty. The cut-off point recommended by the Honors Committee and adopted by the faculty is 3.4 or above, per semester.

f. Sent letters signed by the Dean to graduating students interested in pursuing graduate work describing possible graduate work here. Lists of such students were exchanged among fifteen Schools or Colleges of Home Economics in Land-Grant Colleges and State Universities.

g. Finally obtained an Assistant Dean to take office on January 15, 1969. Her responsibilities include: curriculum, research, Skinner Library, Coordination of Project Proposals and Work Orders, and supervision of the registrar and records of students, as well as working closely with the faculty and with me.

I had hoped that by March 1969, she would be well enough informed to permit me to start formal organization of the School Study. Unfortunately I had broken my leg by this time, which made impossible the travel which I had planned in preparation for the Study. However, this may have been a blessing in disguise because I have had more time in which to assess the strengths and weaknesses of this faculty and the School's program.

h. I have worked diligently and in as many ways as I could discover toward raising the morale of the members of this faculty. However, I have been only modestly successful. It is my opinion that so long as the number of positions is not only limited but decreased and the School budget is as meager as it is, low morale will continue. It is vitally important that the University assume the posture of liberally supporting whatever "new" School the Study recommends and is adopted by the University.

VII. SPECIAL PROJECTS

The Departments have discussed the various special projects. The most important one is mentioned in both the Extension and Nutrition and Food reports, namely, the Nutrition Program in ten counties in Massachusetts which is funded by the Federal Government through Cooperative Extension.

VIII. FUTURE NEEDS AND PLANS

A. NEEDS

1. There is a critical personnel situation in this School. This was true last year as well and was carefully documented by Dr. Niederpruem. It is even more critical this year. I refer not only to the lack of sufficient academic personnel to adequately staff the program but also to the crying need for additional clerical assistance and graduate assistants.

2. The equipment situation in this School is deplorable. This must be the result of an accumulated deficiency over several years. However, this year (beginning in September 1968), I had absolutely no funds to use for equipment. The desk, files and dictating machine which I needed were purchased through Dr. Venman's office. Every department as well as the Assistant Dean and Dean desperately need new equipment and replacement items.

3. Laboratory Classrooms and Office Space.

The School of Home Economics, due to an increase in enrollment and development, has had to deny students courses and keep enrollment in courses limited to the laboratory space and faculty that were available. At the present time there is need for an additional Home Economics Education laboratory and additional Home Management laboratory facilities. More laboratory space is needed for clothing construction and environmental arts.

Additional laboratory facilities are needed for nutrition class use and research activities. The complex for the nursery school laboratory is inadequate and more space is needed. We do not have adequate space to accommodate our graduate students who are working on assistantships and research. Office and work space is not available. An addition to Skinner Hall to accommodate our present needs and future growth is urgently needed.

B. PLANS

The Provost and I had a meeting of minds when I accepted this position. This was that no action would be taken on the Master Plan submitted by the former Dean and that no new Master Plan for the School would be appropriate until the School Study was completed and accepted.

The faculty and I have had many free-wheeling discussions of the possible direction of this School. The coming academic year will be a crucial one in my opinion.

SCHOOL OF HOME ECONOMICS

Annual Report: Activities of the Recruitment Office

June 1, 1968 - June 30, 1969

Submitted by: Ruth C. Boicourt, Liaison Recruitment Officer

I. Studies

A. Withdrawal Study

For the third and final year a questionnaire was sent to freshmen who were accepted into the School of Home Economics but withdrew before matriculating.

Results:

1. The withdrawal rate is high - about 50%.

   a. The University requires no application fee, therefore is a free "safety" application.

   b. The "Candidate Reply Date" gives an applicant a three-week period to wait for acceptances at other institutions.

2. Reasons for withdrawal given by applicants:

   a. Size -- "The University is too big."

   b. Location -- "Too far from home, not near enough to weekend job", etc.

   c. Financial reasons -- many more scholarships offered at other institutions.

   d. Standing of School -- many chose what they considered "Better Schools of Home Economics."

3. Colleges chosen:

   a. Cornell -- for the 3 years the same number of students (10) chose Cornell each year.

b. Fewer students chose Framingham over the 3 years.

c. More students chose Simmons College over the 3 years.

B. Cumulative Average Study

A three-year study of student academic achievement in the School of Home Economics is being made. This compares the cumulative average predicted by the Office of Admissions with that actually achieved by the students in the 1969, 1970 and 1971 classes. Data will be completed in the summer for the class of 1969, so some results will be available next year.

The predicted average is computed by a formula including verbal and mathematic SAT scores plus a weighted rank in class factor.

II. Recruitment literature is ordered from such organizations as the American Home Economics Association and the American Dietetics Association to be used with our own brochures as enclosures in letters and displays at conferences.

The reception desk in the Admissions Office has a constant supply of the "Your Career" brochure on display.

The Placement Office keeps folders on Home Economics available. These are kept resupplied with literature.

III. Student advisees come in often for personal as well as academic help.

IV. The liaison recruitment officer is a member of the University Board of Admissions and Records, which is becoming more of a policy making than a judicial body. It is meeting once a week now to formulate proposals. A current one to be placed on the Senate agenda as soon as possible recommends that any freshman who fails to achieve the retention average for his class shall be allowed to continue for a second semester with no penalty except being placed on academic probation.

First semester transfer students are to be allowed the same privilege. However, a transfer student is subject to dismissal if he does not achieve his class retention point by June.

V. Contacts

A. Visits from prospective students, with or without parents, is one of the pleasantest activities in this office. Information from the students helps predict chances of acceptance. Literature, tours of the building and interviews with faculty members are offered the visitors.

ARCON has been very cooperative in including students who have to come on Saturdays in tour groups of the campus.

B. Letters

1. Informational letters are sent to prospective students and others interested in the School.

2. Guidance Directors and Counselors

The School of Home Economics is now a member of the Massachusetts School Counselors Association.

For ten dollars a year an up-to-date directory of Guidance Counselors in Massachusetts is sent. This is available to anyone interested.

3. This year, contact was made with Community College guidance personnel. The University of Massachusetts is committed to accepting any qualified, recommended graduate of these colleges, so this is a possible fertile source of students.

A workshop for representatives from each Community College was held on campus, counselors interviewed, and follow-up letters sent to each Community College enclosing all available brochures.

Mrs. Rodgers of the Admissions Office has been very cooperative in exchanging information about transfer students.

4. Extension Personnel

Letters were sent to 4-H and County Home Economists enclosing brochures about the School. Response from them has been gratifying. Requests have been sent for the filmstrip "A New Look at Home Economics Careers" for use at various meetings as well as for information about the School.

The counties are also interested in students eligible for the various county scholarships -- Berkshire, Hampden, Worcester and Franklin. Requests are sent in for the names of girls enrolled in the School of Home Economics who are residents of these individual counties. These compilations take time but pay dividends in country good will.

A sheet on all scholarships available to students in Home Economics has been prepared and is sent on request to prospective students.

5. The usual letters of recommendation for summer jobs, graduate schools and transfer to other colleges have been written for students.

6. Letters of welcome to accepted freshmen and transfer students are among the most important sent out of the office.

VI. Admissions - May 1969.

Over 19,000 secondary school graduates have applied to the University this year.

Five hundred of these have applied to the School of Home Economics.

One hundred seventy-six girls have been accepted so far. Seventy-three have elected to use the "Candidate Reply Date" to defer the decision of a college choice.

This high number is due, in part, to the fact that admission is more selective. In-state applicants now need at least a 2.0 predicted cumulative average to be accepted because of the 2.0 graduation requirement, and out-of-state applicants even higher ones.

Students with higher predicted cumulative averages are apt to be accepted more readily by other colleges, which leads to higher withdrawal rates.

This is why the roster is combed carefully to compile a list of accepted students. Letters are sent out as soon as names appear as "accepted" so that some word reaches the applicant during the "deferred" period, with literature from the School which will hopefully strike a responsive chord.

Enrollment is a very delicate area. The "State of the Union" in a particular school affects it in three ways:

1. The number of applications and withdrawals.
2. The number of transfers into and out of the school.
3. Attitude of the Admissions Staff.

This is the "500" year of the School of Home Economics.

It is the first year there have been 500 students enrolled -- what is happening to them? Are more transferring into or out of the School?

It is also the first year that there have been 500 applicants to the School. How many of the crucial 73 deferred decisions will be made in favor of our School?

The answers to these questions depend on the whole School. The whole School also depends on the answers to these same questions.

* * * *

ANNUAL REPORT

Extension Division of Home Economics

July 1, 1968 - June 30, 1969
Submitted By: Winifred Eastwood, Head

Programs of Home Economics Extension will be included in the reports of the subject matter departments of the School of Home Economics as well as here. This report will focus on the impact of the programs in the state, through cooperation with county staff.

One major emphasis of the Division's program since the early 60's has been the problems of the low-income -- this has been done without additional staff and at the expense of the traditional programs, as less programs with the middle income audiences, fewer personal services and less mass media were available. In order to meet any of the needs of the low-income, intense attention is needed to a small group, which is not true with the better educated middle class. Thus the impact in number reached is less with low-income. University faculty and county staff have encountered frustrations and discouragement with the new audience but also acceptance, and in many instances the opportunity to bring about change. Extension Administration has given every encouragement and possible help to programs with the low-income. However, not until December, 1968 were there any new resources. Massachusetts Cooperative Extension received $144,000 from the USDA to expand the food and nutrition program with the low-income audience, money to be used before July 1, 1969. The money was to be used to hire low-income women to teach their neighbors. Other states also received these same special monies.

The first step, in early 1969, was to train one hundred and forty-two women recruited from the low-income population living in nine cities and five rural towns of the state. The recruits were given 120 hours of intense nutrition training over three to four weeks. One hundred and eighteen were hired as Program Assistants, to work for 10 or 20 or 30 or 40 hours a week as was best suited to their home circumstances. Those not hired may be hired at a later date. Others had reasons for not wishing to continue with the program or were found by Extension not to be adequate. The Assistants are now teaching by means of home visits and small group meetings. Other agencies working with the low-income area have been cooperative in referring families to the program.

The reports from the ten units in the state at the end of March, listed 459 families as receiving help from the Program Assistants.

In three months the Extension Service, Division of Home Economics, has involved between five and six hundred low-income families in an educational program, including the Assistants. Hopefully, resources will be available after July 1, 1969, to continue and possibly expand the number of Assistants as well as employ a number of professionals, at least one trained in psychology or social work to give guidance to the Program Assistants in areas beyond the competency of Home Economics.

Other problems to which the Division has given special attention are:

1. Sex Education - Education for healthy sexuality is an urgent problem. County wide short courses were held for adults; professionals, lay leaders and parents.

2. Consumer Problems of the Urban Poor - Expenditure patterns of 156 low-income and middle income families in the city of Holyoke were analyzed to obtain data on their patterns of spending. Concurrently, with the survey selected food, clothing, discount stores, department stores, furniture and appliance stores were shopped by trained shoppers to determine pricing policies and credit transactions faced by these families. Findings support the economic postulate that low-income families spend a higher percentage of their income for the necessities of life. Price patterns proved to be consistant in the food markets. Major problem areas found related to large mark-ups on furniture and appliances in markets serving low-income families. Beyond the survey, seven Institutes were held for approximately 650 professionals and semi-professionals in the state working with the low-income. The Institutes each brought a faculty together to discuss credit, housing, legislation and selling practices. The survey and the Institutes were supported by a Title I Grant.

3. Management for the Blinded Homemaker - Adjustments to new patterns of work for the newly blinded homemaker is one of her greatest problems. Several hundred individuals become blind each year in Massachusetts. County Home Economists and home teachers of the blind have been trained to assist the blinded with tools, tasks, and skills.

4. American Dress and Decoration - Appreciation and knowledge of different historical periods of art in interiors, clothing and architecture were stressed. Workshops including a series of meetings were held for special groups interested in this topic. Topics of this type fit the present day of a more educated population, more leisure time and interest in cultural topics.

Other Programs For Different Audiences are as Follows:

1. Remodeling Clinic - Home Owners

2. Locating and Purchasing Residential Real Estate - Young Families

3. Teen-Age Market - Adults & Teen-Agers, 4-H Leaders

4. Young Homemaker Food and Nutrition Series - Young Homemakers, (middle and low-income)

5. Of Time, Work and Leisure - Lay and Professionals

6. History of the American Negro - Lay and Professionals

7. Managing for Family Satisfaction - Lay and Professionals (middle and low-income)

8. Weight Control - Homemakers (middle and low-income)

9. Family Integrity - Parants and Professionals

10. Values - Lay and Professionals

11. Consumer Behavior in the Marketplace - Consumers (middle and low-income)

12. Art and the Family - Lay and Professionals

. . . . . .

The Head of the Division cooperated with county directors in recruiting and hiring eleven County Home Economists during the year. The year saw more changes than usual; over a third of the county staff. One position, for South End, Boston, was re-instated with Smith-Lever funds after the nutrition money was received. The position is to be permanent which is progress; with the 4-H agent the two now make an Extension team in South End, Boston; each working with low-income families.

The School's 1968 summer session was organized and publicized by the Head with the assistance of a committee, it was the best attended session in the history of the school. The Head has taken the same leadership for the 1969 summer session which is offering several special seminars in view of the annual meeting of the American Home Economics Association in Boston in late June. At this date, the pre-enrollment is excellent for 1969.

Future Plans and Needs

1. Programs with low-income should increase, with at least half of the time of state and county personnel devoted to problems of the audience. At the present, both state faculty and county staff appear to want programs with both audiences, middle income and low-income.

2. Additional professional staff trained in the behavorial sciences to assist with the low-income audience is needed.

3. More publications to support Extension programs would be desirable. At present Extension faculty have not time or perhaps interest in the production of supportative materials. This is partly due to no credit being given them by University Administrators for such publications.

4. Assistance from the University Communications Department with mass media, as special telecasts, perhaps directed to the low-income audience or to the elite as is now true of the radio program "Conversation" over WFCR-FM.

5. More "honor" by the University Administration for Extension teaching.

DEPARTMENT OF HOME ECONOMICS EDUCATION

Annual Report, July 1, 1968-June 30,1969

Submitted by: Helen R. Vaznaian, Head

RESEARCH PROPOSAL SUBMITTED

An interdepartmental, interschool proposal submitted to the Massachusetts State Department of Education, Vocational Division, for funding a newly designed Master's Degree Program in Vocational-Technical Education for teacher preparation. The vocational-technical areas of agricultural education, distributive education, home economics education, business and office education, trade and technical education are represented. The program will be implemented in the School of Education in cooperation with personnel from the Department of Home Economics Education.

It is estimated that there will be (a) 14 million vocational students by 1975; (b) 2,000 additional supervisors, administrators, specialists, and teacher trainers at the state level; (c) 2,500 similar staff members at the local level; (d) the number of vocational teachers needed will have more than doubled between 1966 and 1975 from 124,042 to a projected 257,900.

'American Education OE80060,' March 1969.

OTHER PROFESSIONAL ACTIVITIES (Helen R. Vaznaian)

1. Advisory Council, Child Study Laboratory, Amherst. Pelham Regional High School.

2. Chairman, Oct. 21, 1968, Massachusetts Association for Supervision and Curriculum Development Meeting, Springfield, Mass. Topic: Administrative Obstacles to Community Participation in the Educational Process. (M. Sullivan also participated).

3. North Adams Regional Meeting of Home Economists, Mass. State Department of Education: Curriculum Development for Technical-Vocational Education - Group Leader: Concepts and Generalizations in Family Life Education. (M. Sullivan also participated).

4. Franklin County Teachers of Home Economics, Key Speaker: The Challenge and Constancy of Change. Oct. 28, 1968. (M. Sullivan also participated).

5. Somerville High School Teachers of Home Economics, Guidance Counselors, Department Heads and Administrators, Somerville, Mass. Key Speaker: The Challenge and Changing Mission of Home Economics. Nov. 5, 1968.

6. Harvard University, Graduate School of Education, Cambridge, Mass. (Internship Program for Secondary School Administrators). Home Economics Education, 1985. Nov. 1968.

7. National Conference, Curriculum Development in Vocational and Technical Education, sponsored by UCLA and U.S. Office of Education, March 1969. Purpose: to bring together resentatives of business, labor, government, and education for discussion that would assist in establishing a framework for implementing Part I of the 1968 Vocational Education Amendments.

8. U.S. Office of Education Regional Clinic in Vocational Education, Providence, R.I., April 9-10, 1969. Research presentations (O.E. grants) including Consumer Education and Homemaking, Residential Vocational Education, Vocation Education for the Disadvantaged (Planning, Organizing, and Operating Through A Systems Approach), etc.

9. Fall, Midwinter, Spring Meetings: Massachusetts Home Economics Association, Western, Mass. and Eastern Mass. Home Economics Associations.

10. National American Home Economics Association, Boston, Mass., June 1969. Co-Host: College Chapters, AHEA.

11. New England Association for Supervision and Curriculum Development, Educational Policies Commission and Pitkin Institute.

12. Massachusetts Association for Supervision and Curriculum Development, Annual Meeting: "Personalizing Education for the Urban Child." Foxboro, Mass.

MAJOR ACCOMPLISHMENTS

1. Thorough research into the Vocational Education Area which includes under the Vocational Education Act of 1968, Consumer Education and Homemaking. The study has included:

   Handicapped

   a. Vocational Education for the Handicapped, including Mentally Handicapped Youth in large urban communities.

   b. Vocational Education Act 1968 Provisions for the Handicapped.

   c. Potential for Employment of the "Handicapped".

Cooperative Vocational Education (Ex: Home Economics Food Service Program) -

a. State Plan Requirements Under Part G, Section 173-1968 Amendments

   Use of funds and Cooperating Agencies
   Reimbursement of Employers
   Ancillary Services

b. Labor's Role in Cooperative Occupational Education as well as Employers, Schools and Community's role.

Occupational Education Needs for Massachusetts, Schaefer-Kaufman Report to the Massachusetts Advisory Council on Education, June 1968.

Research on the "Implications of Women's Work Patterns for Vocational and Technical Education," (Center for Vocational and Technical Education, Ohio State University).

2. Development of an interdepartmental Master's Degree Program in Vocational Education in cooperation with School of Education.

3. Proposed Changes: Undergraduate Curriculum, Home Economics Education and continued growth of our program at Undergraduate and Graduate levels.

SPECIAL PROJECTS AND PROGRAMS

1. (Boston) In-service education program (HEEd 682, 3 credits) conducted at Arlington High School, Arlington, Mass., for teachers of Home Economics in Arlington, Medford, Newton, Reading and Wilmington. One member summarzied it as follows:

   "Tired, drained, frustrated, exhausted but at the same time excited, enriched, inspired, informed, satisfied--I have never worked so hard on a course nor felt so completely satisfied and ready to go home and put my learnings to work."

2. Univ. of Mass., Boston, 3-week concentrated course (9 a.m.-12 noon), Home Economics Education 682, July 1968. Evaluation by graduate students, college instructors and supervisors was most rewarding. (Available in department office). Several requests have been made to offer more courses at U.Mass./Boston.

3. Model Cities Project, New Bedford, Mass. Six consultations as follows:

   a. With Assistant Superintendent, Project Director, Heads of Departments in Art, Business, Industrial Arts and Home Economics, re: an integrated occupational education program (curriculum) and critical evaluation and suggestions for Home Economics Education facilities (4 large laboratories) in the proposed new high school.

   b. With Junior High School Principals and Supervisor of Home Economics re: Modular Scheduling and the Middle School Home Economics Curriculum.

3. Cooperative Work-Study Programs, Federal Funding, and the Senior High School Program.

4. In-Service Work-Shop: Overview of total program, Instructional Objectives, Information Feedback System.

FUTURE PLANS AND NEEDS

1. We expect to take an increasingly active role in the Mass. State Dept. of Education task force for Consumer and Homemaking Education.

2. The development of a doctoral program in cooperation with the School of Education in Vocational Education.

3. Continued growth in in-service education programs offered on a one semester, 3-credit basis.

4. Expansion of research on all fronts including those related to programs of occupational education at the Master's Degree and Doctoral level.

NEEDS

1. Desparate need for additional space comparable at the minimal level to what we presently have in one room in Hampshire House.

2. We need to become a regional center for dissemination of curricular materials related to our specific field of education. Our Curriculum Laboratory should include multi media materials as well as those that are linear. Funds and room are needed.

3. We need desparately a research oriented person in Home Economics Education whose primary role will be to direct theses at the Master's and Doctoral levels, and initiate and direct research in urban school settings such as the project in New Bedford. "Fresh doctoral candidates" in Vocational Education are presently turning down "15,000" per academic year!

4. Our student internship program has grown to the point where two fulltime qualified staff are necessary. Next year, despite sending students out both semesters, we essentially still will warrant two staff. Their responsibilities would include teaching HEEd 382, Curriculum and Methods; Ed 285, Observation and Student Teaching, and supervision of students for 8 weeks. They would be responsible for a full day institute for cooperating teachers, supervision followed by conference on weekly visits to the student interns and a 2-hour seminar every other week during the 8-week internship. The quality level of experience would thus greatly increase.

5. A fulltime secretary is needed by the department. The amount of instructional materials rather than the number of personnel in the department makes this consideration imperative. While our present part-time secretary does her best to fulfill our requests, it is often possible for materials to be delayed and therefore not ready for the class hour.

   A great many requests via mail and phone are made of this department. Due to the confidential nature of many, a secretary as opposed to student help would be of greater assistance.

Lastly, the department wishes to express its appreciation for making possible the assistance of Margaret Zuzgo during the absence of Marjorie Sullivan (sabbatical). We look forward to your continued support in the growth and development of Home Economics Education.

* * *

HUMAN DEVELOPMENT PROGRAM
School of Home Economics
University of Massachusetts

DEPARTMENTAL REPORT 1968-1969 ACADEMIC YEAR

FACULTY PUBLICATIONS

The following articles have been published or accepted for publication since the last report:

Olim, E. G. Mother's language and the child's cognitive behavior. In Hess, R. D., et al., Cognitive environments of urban preschool children: final report, University of Chicago, 1968, 147-169.

Olim, E. G. Maternal language styles and cognitive development of children. In F. Williams (Ed.), Language and poverty: perspectives on a theme. Chicago: Markham Publishing Co., in press.

Olim, E. G. Maternal language styles and children's cognitive behavior. The Journal of Special Education, in press.

Olim, E. G. The self-actualizing person in the fully functioning family: a humanistic viewpoint. Abstract for Sociological Abstracts of articles that appeared in The Family Coordinator, July 1968.

Olim, E. G. Relationship between linguistic competence and cognitive competence, Research Relating to Children, in press.

PAPERS

The following papers were, or are to be, presented during the period of the report:

Turner, B. F. (with Costa, P. and Kahn, R. L.) Age as a political issue. Gerontological Society, Denver, November 1968.

Turner, B. F., and Tobin, S. The relationship of personality variables to stress reaction. Accepted for presentation at the 8th International Congress of Gerontology, Washington, D. C., August, 1969.

Burroughs, J. D. Invited paper, The Family in Transition, University of Rhode Island, May, 1969.

Burroughs, J. D. Invited paper for a symposium on "Health Education of the Public," American Academy of Pediatrics, Philadelphia, June, 1969.

Collard, R. R. Invited paper, Current Trends in Early Childhood Education: a Critique, National Association for the Education of Young Children, November, 1968.

Olim, E. G. Invited paper, Self Actualization, University of Minnesota Cooperative Extension Meeting on the Family, Minneapolis, December, 1968.

PUBLICATIONS IN PROGRESS

Turner, B. F., Tobin, S., and Lieberman, M. Psychological predictors of adaptation to institutionalization in the aged, to be published in the Journal of Gerontology.

Olim, E. G. Language and cognitive development. Book in progress, to be published by Scott-Foresman.

Collard, R. R. Age differences in exploratory behavior of infants. Submitted to Child Development.

Collard, R. R. Sex differences in exploratory behavior of infants. Submitted to Child Development.

Turner, B. F. The stress of institutionalization in the aged. Article in preparation.

Collard, R.R. Social class differences in exploratory behavior of infants. In preparation.

RESEARCH GRANTS

Dr. Olim received Faculty Research Grant FR-N11-69(3).

Dr. Turner has applied for a faculty research grant for a study titled, "Perception of Opportunity Structure and Socialization for Achievement as Related to Sex, Race, and Social Class."

Dr. Olim has submitted to HEW a second draft of a proposed project to be Federally funded, titled "Relationship Between Linguistic Competence and Cognitive Competence of Preschool Children."

OTHER PROFESSIONAL ACTIVITIES

Dr. Turner received her Ph.D. from the University of Chicago during the reporting year. It was recommended that her thesis be submitted to the American Academy for the Advancement of Science for the competition for the Socio-Psychological Prize.

Professor Burroughs presented a series of Sex Education Seminars in each of five Massachusetts counties during the fall of 1968. These seminars attracted enthusiastic audiences of teachers, school administrators,

guidance counselors, nuns, and youth workers. As a result, Professor Burroughs has spoken on sex education to large audiences of Catholic married couples (one series received wide publicity in the Catholic press) and Professor Burroughs has participated in a radio program with a Catholic monsignor on Pope Paul VI's birth control encyclical. He has also conducted workshops on Sex Education for School Personnel, University of Maine, at Presque Isle, April, 1969, and at Gardiner, March, 1969.

Professor Burroughs has also been conducting successfully the Home Economics five-college radio series.

MAJOR ACCOMPLISHMENTS OF THE DEPARTMENT DURING THE YEAR

Two resignations of faculty were effective at the end of the preceding year. Since one was also director of the Laboratory School, we needed to recruit two faculty members and someone to direct the Laboratory School. The Department recruited Dr. Collard, Dr. Turner, and Mr. Dumas to serve as Assistant Director of the Laboratory School with immediate responsibility for administration of the School. Policy direction was taken over by Dr. Olim.

Because of the growing demand for persons trained in early childhood education, major changes were made in the organization of the laboratory school, to become effective next fall. Instead of being organized horizontally (four sections, each with a Head Teacher), it was decided to change to vertical organization, i.e., with all children aged three, four, and five in one large group with two head teachers. For next fall, we have taken in two-year-olds because of the importance to Child Development of studying and working with younger children. These are to be in a separate section with a separate head teacher. The new arrangement should permit greater flexibility and has enabled us to conduct all the classes in the morning.

By freeing the afternoon for additional children, we have expanded considerably the number of children who can be admitted to the school thereby increasing the teacher-training and research capabilities of the school. A cooperative arrangement with the Department of Psychology for financing the operation of the afternoon school was consummated.

Certain minor course rearrangements will permit us to reach more students interested in laboratory school management. The new arrangement will enable us for the first time to admit students other than Child Development majors to the student practicum and to the ancillary courses in early childhood education.

During the year, also, a number of changes were made in the Child Development major in the direction of eliminating required courses of dubious value, thereby increasing the number of electives available to Child Development majors. We also proposed a new major, Human Development, which is to be science-oriented (as opposed to teacher-training oriented), but the new major has not yet been approved. It is now under discussion with the Department of Psychology and the School of Education. The Department of Sociology has concurred in the establishment of the new major.

We also introduced a very important new course, Human Development in the Adult Years. This has enabled us to offer education in Human Development from conception to senescence--that is, to cover the full life cycle.

FUTURE PLANS AND NEEDS

One of the most urgent needs of the Department is to develop a Ph.D. program. Unfortunately, though a start in this direction has been made, the freeze on faculty has not given us the faculty resources to make substantial progress toward development of a Ph.D. program.

Another urgent need of the Department is to obtain the additional space which we have requested in the rooms next to the Laboratory School (which were formerly used to house animals), in order to expand the facilities of the School and to build research and testing rooms--facilities that we have had a deficiency of. The Department of Psychology has funds for the construction of research rooms, which they will make available.

As mentioned in last year's report, the present landscaping of the laboratory school is inadequate and even dangerous for young children. These conditions should be corrected and future landscaping should make use of modern materials such as concrete and wooden forms to provide a creative outside play area for young children.

In conclusion, it must be emphasized that it is difficult to build a first-rate Human Development program so long as there is a freeze on faculty and so long as there is a wide-spread lack of understanding within the University as to the nature of Human Development as a discipline. It is hoped that the impending study of the future orientations of the School of Home Economics will lead to an expanded appreciation of the important and unique contributions to scholarship and education that an expanded Department of Human Development can make.

Ellis G. Olim, Head
Department of Human Development

June 1969

ANNUAL REPORT

DEPARTMENT OF MANAGEMENT AND FAMILY ECONOMICS

JULY 1, 1968--JUNE 30, 1969

I. Faculty Publications, Research Grants, Research Projects and Other Professional Activities.

A. Continuation of a Higher Education Title I grant of $24,000 under the direction of Marjorie M. Merchant as an Extension activity.
The research was for study of family expenditure patterns and market policies among low-income communities. The price of poverty in the market place for consumer goods and services was examined from two directions. The first approach included a study of 156 families and their shopping patterns and family expenditure data. These families represented 103 low-income -- poverty level families and 53 median income families. Concurrently food markets, discount houses, department stores, specialty stores and furniture and appliance stores frequented by these families were shopped by trained shoppers to determine pricing policies, quality differences and credit transactions faced in the low-income communities. This relationship of market community to the total environment of low-income communities was undertaken to provide an understanding of the complexity of the market community and its impact on economic self-help opportunities and consumer education programs.

The second phase of the study was directed toward increasing the understanding and vision of personnel working among low-income communities in the area of consumer problems as they relate to the poor. Eight educational institutes emphasizing consumer problems related to credit, selling practices, housing, political issues, family and community values and goals were conducted for approximately 650 representatives of government, educational and charitable organizations involved with the low-income community. These institutes provided a potential for the development of more meaningful and realistic consumer and economic educational opportunities with low-income families. The degree to which they will have accomplished the purposes intended can only be measured in the long run.

B. Participation in American Home Economics invitational conference on Future Directions for Home Economics Rehabilitation in March, 1969 at the University of Oklahoma, by Verda M. Dale.

C. Panel participant on Rehabilitation Section program of American Home Economics Association Annual Meeting, Boston, June 1969, by Verda M. Dale.

D. Paper "The Market Environment and the Low-Income Consumer" at the annual conference of Council on Consumer Information, Evans, Colorado, April 1969 by Marjorie M. Merchant.

E. Awarding of the PhD. degree in December, 1968 to Verda M. Dale and in March, 1969 to Edward K. Knapp, both from Michigan State University.

II. Major Departmental Accomplishments

Present work in the Management and Family Economics Department includes teaching 3 undergraduate courses on a regular basis, some individual support to graduate students, and a Cooperative Extension program in management, family economics, and housing. With an extremely limited number of staff, the program is being maintained only, not expanded.

III. Special Projects or Programs

A. Eight educational institutes emphasizing consumer problems in the low-income community, were held under the direction of Marjorie M. Merchant. These were part of the Title I grant program described in I. A. All members of the department participated in the institutes.

B. A statewide conference on "The Massachusetts Builder," planned and carried out by Edward K. Knapp, as an Extension activity.

C. Educational resource in Home Management to Home Teachers of the Blind of the Massachusetts Commission of the Blind. The cooperation with this state agency permits educational access to a special audience with great needs in the area of Home Economics.

IV. Future Plans and Needs

The need exists for the development of an undergraduate major program directed toward educating families at different levels of socio-economic standing in managerial and economic competence. This is a goal of this department. A graduate program in this area is available.

Additional staff, in both home management and consumer economics is essential if the department is to develop a viable program, either at the undergraduate or graduate level. Special efforts will have to be made in allocating resources in a feasible manner between demands made from teaching on the campus and the Extension program.

DEPARTMENT OF NUTRITION AND FOOD

Annual Report: July 1, 1968, to June 30, 1969

Submitted by Dr. Mark H. Bert, Head

1. Faculty publications, research grants, research projects and other professional activities.

Publications

Reber, E.F., M.H. Bert, E.M. Rust and E. Kuo. Biological evaluation of protein quality of radiation-pasteurized haddock, flounder and crab. J. Food Sci., 33 (1968) 335.

Reber, E.F. and M.H. Bert. Protein quality of irradiated shrimp. J. Am. Diet. A., 53 (1968) 41.

Bert, M.H. and E.F. Reber. Effects of radiation pasteurization and cooking on the protein quality of chicken breasts. Fed. Proc., 28, No. 2 (1969) 812.

Dr. Bert co-authored 2 manuscripts submitted for publication in the J. Nutrition.

Research grants

The research grant HD-01216-04, NIH, entitled "Tryptophan metabolism and requirement for pregnancy," expired in October, 1968; Dr. Mary E. Lojkin was the principal investigator.

The faculty research grant FR-N13-69(1) entitlted "The effect of soy protein and carbohydrate on serum cholesterol level in chicks" has been put into operation; dietary factors affect serum cholesterol level in chick and man similarly. Dr. K. Padma Umapathy is the principal investigator.

Other professional activities

Two Search Committees (consisting of faculty members of this Department, other Departments of the School of Home Economics, and other Departments of UMass) have been working on finding promising candidates to fill 2 faculty position openings in this Department. The entire faculty of this Department has been engaged in discussions aimed at revising the undergraduate curriculums in this Department and in the School of Home Economics as a whole. A Student-Faculty Committee for this Department has been put into operation after carrying out an election for it.

The Allied Health Professions Educational Improvement Program Project AHI-68-589(B) for Basic Improvement of Teaching of Dietetics and Institutional Administration has been in operation; Dr. Bert is Director of this project. This project has made it possible to purchase audio-

visual equipment, to buy or rent audio-visual materials (films, filmstrips, slides, pamphlets, some reference books), a copier and the supplies for it, laboratory equipment (microwave ovens, etc.), to pay the expenses of faculty members of this Department of Nutrition and Food who traveled in order to acquire new information needed for improving their courses, and to hire consultants for the purpose of drawing renovation plans to increase the student capacity of the present food laboratory areas, and to upgrade the quality of teaching in food laboratories. This project is supported by a grant from the Department of Health, Education, and Welfare.

Dr. Bert has applied, jointly with Dr. W.W. Nawar of the Department of Food Science and Technology, for a research grant aimed at investigating the possible toxicity of certain substances resulting from the irradiation of fish products. As a member of the Society of the Sigma Xi, Dr. Bert participated in the arrangements for the lecturing tour of Dr. Jean Mayer (Professor of Nutrition, School of Public Health, Harvard University) on UMass campus in November, 1968, and escorted Dr. Mayer to classes in this Department. In March, 1969, Dr. Mayer contacted Dr. Bert, and asked him whether this Department and other Departments of UMass would be interested in participating in the Massachusetts Nutrition Survey which will start this year as part of the National Nutrition Survey and will involve the Massachusetts Department of Public Health, the University of Massachusetts, Harvard U., and the Massachusetts Institute of Technology (Harvard U. and MIT as consultants). Dr. Bert took with him Dr. Samuel Seely (Coordinator of Research, UMass Graduate School) and Dr. William Darity (recently appointed Head of the Department of Public Health, UMass, effective September 1969) to a conference with 2 Harvard University representatives and the Deputy Commissioner of the Department of Public Health, Commonwealth of Massachusetts. The information exchanged was of an exploratory nature. It is not yet clear whether this Department of Nutrition and Food will be able to participate in the Massachusetts Nutrition Survey (total budget of at least $400,000). An article for Dr. Bert has been included in "American Men of Science, Physical and Biological Sciences, a Biographical Directory, Supplement 5 to 11th Edition, 1969." He participated in a radio program dealing with the nutritive value of irradiated clams, broadcast on WFCR-FM, October, 1968.

Dr. Bert attended the 16th Annual Food Management Seminar on UMass campus in January, 1969, and the 53rd Annual Meeting of the Federation of American Societies for Experimental Biology in Atlantic City, N.J., in April, 1969 (he presented a report on the third article listed under Publications above).

Miss Dorothy Davis attended: The Annual Meeting of the Massachusetts Dietetic Association in Boston, Mass., in October, 1968; the 51st Annual Meeting of the American Dietetic Association in San Francisco, Cal., in October, 1968; the Annual Food Forum Meeting in New York City in November, 1968; and the meeting of Western Massachusetts Home Economics Association on UMass campus in March 1969. She plans to attend the annual meeting of the American Home Economics Association in Boston, Mass., in June, 1969. She participated in two programs dealing with nutrition and food, which were broadcast over WFCR-FM in February, 1969. She has been granted a sabbatical leave during the second semester of the academic year 1969-1970 in order to pursue research in microwave cooking.

Dr. Mary E. Lojkin attended the 53rd Annual Meeting of the Federation of American Societies for Experimental Biology in Atlantic City, N.J., in April, 1969.

[illegible]

[illegible]

[illegible]

Mrs. Jane McCullough took a two-week course in "Computer Application of Quantitative Methods in Food Service Management and Dietetics" at Tulane University, New Orleans, La., in August, 1968. She attended the 53rd National New York Hotel-Motel Exposition in New York City in November, 1968. As a member of the Massachusetts Food Service Educational Council she was instrumental in the granting of a $250 award from that council to our School; this money was to be used for field trips for students and accompanying faculty in the Dietetics and Institutional Administration program in this Department. She was chairman of the 16th Annual Food Management Seminar held on this campus, January 22-24, 1969. She participated as an instructor in programs for a 9-week seminar on "Fish and Seafoods in Food Service Establishments" in Waltham (November, 1968), Westboro (March 1969), and West Springfield (May 1969) in Massachusetts; this seminar was sponsored by the Cooperative Extension Program and the Bureau of Commercial Fisheries (Department of the Interior). She is enrolled in the course Hotel Restaurant 300, Principles of Sales.

Dr. K. Padma Umapathy has replaced Mrs. Gladys Cook who retired in June, 1968.

Miss Harriet J. Wright was chairman of the Massachusetts Delegates to the 51st Annual Meeting of the American Dietetic Association in San Francisco, Cal., in October, 1968. She attended the National Meeting for Expanded Nutrition Education Program held in Washington, D.C., in November, 1968, under the sponsorship of U.S.D.A. and aimed at helping families living in or near poverty to acquire knowledge skills, and changed behavior necessary for achieving adequate diets. Since then she has been in charge of training for professional Home Economists who are to become responsible for Expanded Nutrition Program in 10 countries of Massachusetts, has functioned as subject matter consultant and advisor to the program on a continuing basis, has taught assistants recruited into the program, has developed materials to support the program, and has been doing an ongoing evaluation of the program, with special emphasis on subject matter aspects and on the process of change. She participated in a program dealing with nutritional problems in disadvantaged families, which was broadcast on WFCR-FM radio in December, 1968. She plans to attend the Annual Meeting of the American Home Economics Association in Boston, Mass., in June 1969.

2. Major accomplishments during the fiscal year 1968-69.

Undergraduate instruction

In the fall of 1968, 58 students were enrolled as majors in this Department. In addition to the courses offered to these majors, 5 service courses in Nutrition or Foods were offered to students majoring in other Departments.

Ellen Breslaw, Charlotte Boyd and Nancy Fogg presented Senior Honors Projects in Foods.

Graduate instruction

In the fall of 1968, 18 graduate students were enrolled in this Department and 5 other graduate students were writing an M.S. thesis or a report on a special problem in Nutrition. Three of the above 18 students were candidates for the Ph.D. degree in Nutrition and Food. In the spring of 1969 another candidate for the Ph.D. degree in Nutrition and Food enrolled in this Department. This total of 24 is the highest head count of graduate students in this Department, and comprises a number of part-time students. Dr. Bert is Director of Graduate Studies in this Department.

M.S. Theses:

Kammerbeek, Maria G. Nutrient intake of elderly residents in a nursing home

Kressy, Jean. The effect of microcellulose on organoleptic characteristics and caloric content of angel food cakes

Epperson, Janet M. The effect of microcrystalline cellulose substituted for sugar in angel food cakes

Fu, Florence Huang-Hsiang. The effect of excess leucine on tryptophan metabolism.

Special Problems:

Lynch, Mary. Nutrient intake of and quality of protein consumed by inhabitants of the District of Molyneaux on the Caribbean island of Montserrat

Terry, Mattie. Comparison of quality and quantity of protein consumed by individuals in rural farm, rural nonfarm, and urban households at 3 levels of income in the southern and north-eastern sections of the United States.

Woods, Rosa. The effect of enzymatic treatment on the protein quality of sewage-grown unicellular algae.

Yeh, Grace Chao. The effect of several culinary oils on the palatability of butter cakes

3. Future plans and needs

Plans

There is a plan to expand the laboratory animal facilities by moving into 3 animal rooms in Morrill Science Center; the administration of UMass has been urged to approve this plan. A new course in "Laboratory Methods in Human Nutrition" has been designed. Plans are being prepared for the renovation and increased utilization of food laboratory facilities for teaching and research. The enrollment of undergraduate and graduate students in this Department is increasing.

Needs

More funds for classroom, laboratory, and office supplies and expenses. More equipment for teaching and research. More Teaching Assistantships and more Research or Service Assistantships. More time and assistance for the preparation of successful applications for research grants. More funds for faculty travel.

TEXTILES, CLOTHING AND ENVIRONMENTAL ARTS DEPARTMENT
ANNUAL REPORT FOR JULY 1, 1968-JUNE 30, 1969

Submitted by: Sarah L. Hawes, Head, TCEA Dept.

I. Professional Activities, Publications

Publications--
Mr. Paston: Collages, Arts and Activities, June 1969

Other Professional Activities--

The department was represented at the following professional meetings:

Apparel Research Institute Annual Meeting (M. Niederpruem)
Celanese Invitational Conference for College Educators (S. Hawes)
Eastern Region Conference, College Teachers of Textiles and Clothing (V. Davis, M. Niederpruem, C. Porter, M. Randall)
National Art Education Conference (H. Paston)
National Home Economics Association (V. Davis, R. Johnston, S. Hawes, M. Niederpruem, C. Porter, M. Randall)
National Society Architectural Historians (R. Johnston)
National and New England Society Interior Designers (H. Paston)
Regional and State Art Education (R. Johnston)
Regional and State Home Economics Association (Staff)

In addition, faculty are also members of:

American Association of University Women (S. Hawes)
American Association of University Professors (S. Hawes, M. Niederpruem)
American Association of Textile Chemists and Colorists (S. Hawes)
National Retail Merchants Association (C. Porter)

Committee Participation:

School Committees--Department represented on most committees
TCEA Student-Faculty Liaison Committee (C. Porter, V. Davis, S. Hawes)
Scholarship (Chairman, C. Porter)
Graduate (Chairman, M. Niederpruem)

University Committees
Senators: S. Hawes, C. Porter (elected for 1969-1972)
Fine Arts Council (H. Paston)
Discipline Board (S. Hawes)
Committee on Committees (S. Hawes)
University Affairs (S. Hawes)

II. Major Accomplishments of Unit

The Department is and will continue to be devoted to the undergraduate and extension program of the School until such time as it receives additional personnel qualified to develop a program, teach and conduct research at the graduate level.

Four full-time resident faculty members carried the major responsibilities of the academic program. One of these four members also assumed and executed responsibilities of Department Head. Two extension specialists offered one course and one three-fourths time lecturer taught the studio sections of one course and a one-eighth time lecturer taught a 3 credit course.

A full-time position which had been promised the department was consumed by the transfer of Dr. Niederpruem from the administrative position of Dean of the School to a teaching assignment in the Department. During the first semester, Dr. Niederpruem was relieved of academic responsibilities to allow her to adjust to the transition, to prepare herself to teach a course and to up-date herself in the field. Second semester Miss Niederpruem was assigned to teach one course and is attempting to develop an "umbrella" research project to submit for funding. The Department has had very little relief in staffing problems with the addition of this position.

The Student-Faculty Liaison Committee which was organized this year has proved to be very active, constructive and fruitful.

A Department curriculum study has been vigorously pursued and is progressing well.

The dedication of the faculty to fulfilling their heavy assignments and increasing responsibilities is highly commendable and rewarding.

The Department currently has 206 majors, with 34 students graduating in 1969. In 1967, we had only 13 graduates.

In 1968-69 the Department offered 20 TCEA Courses (44 Sections) plus 3 Special Problems and serviced 1024 students. Most courses had to be limited to departmental or school majors and were over-subscribed on Counseling Day each semester. Shortage of faculty and space were the reasons for this curtailment.

These figures indicate a substantial increase in students serviced in 1967-1968, when 23 TCEA Courses (38 Sections) plus 6 Special Problems serviced only 924 students including several non-majors who could be accommodated.

The Department is distressed because non-majors, who enroll in courses, have to be evicted, and they are an excellent source of new transfer majors.

TCEA Extension Program

The TCEA Extension Specialists continued Training Classes of Extension County Home Economists in their respective subject matter areas. They developed comprehensive educational programs throughout the state in subject

matter areas--ranging from direct teaching to coordination of art tour--to mass media presentation They participated in teaching programs for specific audiences--namely, Handicapped--Blind and Deprived persons, urban Boston. Both specialists taught one Department course each to undergraduate students. In addition, Miss Davis was an Adviser to 23 undergraduate students.

I. Special Projects and Programs of TCEA

Planned and emceed 30 half-hour radio programs "Conversation) on WFCR (one used on Voice of America) (V. Davis)
Presented programs on "Conversations" (V. Davis, S. Hawes, R. Johnston, H. Paston, C. Porter)
Presented "Training Program in Textiles" for County Agents (S. Hawes)
Presented lectures for schools, college clubs, professional organizations (C. Porter, H. Paston)
Represented in Group Exhibition, Carter Gallery, N. Y., and Group Show, U. Mass. Student Union (H. Paston)
Advisor to Vocational Department, Greenfield High School (R. Johnston)
Chairman of Master's Thesis (M. Niederpruem)
Residential College-Faculty Fellows (H. Paston, C. Porter)
Planning, staging and producing of 4-H Clothing Review, Eastern States Exposition (V. Davis)
Planning and setting-up 4-H Clothing Exhibit, Mass. Bldg. (V. Davis)
Planning, writing script and supervising State 4-H Clothing Review, including workshops and evaluation, Univ. of Mass., 6/69 (V. Davis)
Commentator and Judge for campus and state reviews and contests (C. Porter)
Advisor for Sorority (C. Porter)
Continued work on Ed.D. Thesis (H. Paston)
Plans on advanced study, summer 1969 (M. Randall)
Worked extensively with a local 4-H Club (M. Randall)
Arranged and conducted two evening Counseling Programs for TCEA Majors (V. Davis, S. Hawes, H. Paston, C. Porter, M. Randall)
The Department will offer two workshops for Univ. Day for Women sponsored by the School of Home Economics (V. Davis, H. Paston).
The Department will also offer two undergraduate courses during the first session of Summer School (H. Paston) and a guest lecturer will offer a graduate course (Dr. R. Gates).

V. Major Needs and Project Plans of TCEA Department

Personnel:

Department Head--a person qualified to direct the undergraduate program, develop a graduate program, initiate a research program to support graduate program and attract graduate students.

Additional staff member in both Textiles and Clothing and in the Environmental Arts areas. The part-time lecturers currently teaching courses in the latter area barely permit us to operate the current program. They contribute little to the program development and expansion plans and do not relieve the counseling and committee assignments of the full-time personnel.

As indicated in the introductory statement, the entire program is expanding and course enrollment has been curtailed because of limited personnel and laboratory facilities. Present faculty do not have the time to indulge in writing, research, course revision or development or other desirable professional pursuits.

Textiles is continuing to explode as a field of knowledge and as a career potential--at least one additional course is needed in this area.

Our offerings in clothing are not adequate to prepare students for the professional demands that will be made of them in their first position.

Facilities to support these needs include a textile laboratory, an additional arts studio and a clothing design studio.

Increased budgetary support is needed for the expanding current program and for our future developments of graduate and undergraduate programs. This year the department received nothing in the Equipment -13 Account. Most of the modest Travel Budget had to be expended for Supervisory Travel for the Retail Field Exprrience--result: Professional Travel for faculty was almost entirely financed personally by each individual.

Teaching Assistants are a must--with multiple sections of studio and laboratory courses the faculty and facilities could be used much more efficiently and economically.

An immediate and urgent need is a full-time departmental secretary. The current 1/3-time secretary is located in the main office of the school, far removed from records, etc., the result is that she is used only as a typist. Even the departmental telephone is unattended when faculty are in class.

Additional future plans include an "Experimental Program of Tutorial Nature for Home Economics Clientele".

SLH:kmc:4/28/69

UNIVERSITY OF MASSACHUSETTS
School of Nursing

ANNUAL REPORT

July 1, 1968-June 30, 1969

UNIVERSITY OF MASSACHUSETTS

SCHOOL OF NURSING

ANNUAL REPORT

July 1, 1968 - June 30, 1969

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UNIVERSITY OF MASSACHUSETTS
School of Nursing

M E M O R A N D U M

From: Mary A. Maher, Dean, School of Nursing

To: Dr. John W. Lederle, President, University of Massachusetts

Subject: Annual Report of the School of Nursing - July 1, 1968-June 30, 1969

Dear President Lederle:

It is my pleasure to submit herein the report of the School of Nursing for the fiscal year 1969, prepared according to the format received from the Office of R. J. McCartney, Secretary of the University.

May I take this opportunity to express my appreciation and that of my faculty for your continued administrative support and understanding.

Most sincerely,

Mary A. Maher

Mary A. Maher, Dean
School of Nursing

MAM:mmr

UNIVERSITY OF MASSACHUSETTS
School of Nursing

ANNUAL REPORT

July 1, 1968 - June 30, 1969

I. ALLOTMENT TO SCHOOL (State):

FISCAL YEAR	ALLOTMENT*
1966-1967	$28,323.23
1967-1968	29,664.00
1968-1969	33,400.00

* Exclusive of Salaries.

II. PERSONNEL:

Professional -

Rank	Number of Personnel		
	September 1966	September 1967	September 1968
Dean & Professor	1	1	1
Associate Dean & Professor	1	0	0
Professor	2	2	2
Associate Professor	3	2	3
Assistant Professor	9*	11*	15*
Instructor	11	10	11.5
Total	26	26	32.5

* Salary of two Assistant Professors paid from Mental Health Grant.

Part-time -

Clinical Dietitian	1	1	1
Visiting Lecturer (Research)	-	1	1
Clinical Instructor	-	-	1

STAFFING PATTERN (as of June 30, 1969)

Professional - (full-time)

Rank	Percentage University Standard	School of Nursing No.	School of Nursing %	Comparison of School with U.M. Standard Percentage
Professor*	25	5	15	-10
Associate Professor	20	3	9	-11
Assistant Professor	30	17	51	+21
Instructor	25	8.5	25	same
Total	100	33.5	100	

* Inclusive of the Dean and Associate Dean (appointed as of Feb. 1, 1969).

Comment:

The staffing pattern reflects a far too high proportion of faculty at the Assistant Professor and Instructor levels (76%), and a far too low proportion at the Professor and Associate Professor levels (24%). Every effort must be made to recruit faculty whose qualifications warrant appointment at the rank of Professor and/or Associate Professor level. In addition, Assistant Professors whose service warrants advancement should be promptly promoted.

PERSONNEL ACTION:

(Faculty)

APPOINTMENTS: (N) = New; (R) = Replacement; FT = Full-time; PT = Part-time

Date	Name	Rank	Functional Area	(N) FT	(N) PT	(R) FT	(R) PT
9/68	Susan P. Cahoon	Clinical Instructor	Nurs. of Child & Adult			X	
2/69	Lillian Goodman	Associate Dean & Professor				X	
2/69	Susan Grancio	Instructor	Nurs. of Child & Adult			X	
9/68	Sophia Harrell	Asst. Professor	Maternal-Child Nurs.			X	
9/68	Madeleine Lord	Instructor	Community Nursing			X	
9/68	Faye Moore	Instructor	Nurs. of Child & Adult			X	
9/68	Janet Simmons	Asst. Professor	Psychiatric Nurs.			X	
9/68	Joyce Wilkes	Clinical Inst.	Nurs. of Child & Adult				X
9/68	Alvin Winder	Assoc. Professor	Psychiatric Nurs.	X			
	REINSTATEMENT:						
9/68	Charlotte Hoglund	Instructor	Psychiatric Nurs.			X	

PROMOTIONS:

Date	Name	From	To	Area
2/1/69	Virginia Earles*	Assoc. Professor	Professor	Graduate Program (Medical-Surgical Nursing)
"	Charlotte Hoglund*	Instructor	Asst. Prof.	Psychiatric Nurs.
"	Karen Johnson*	Instructor	Asst. Prof.	Nurs. Fundamentals (Course Coordinator)
"	Jane Nicholson*	Asst. Prof.	Assoc. Prof.	Nurs. Fundamentals & Freshman-Sophomore Year Coordinator)
"	Ruth Smith*	Instructor	Asst. Prof.	Community Nursing (Course Coordinator)

* Promotion and Merit Increment.

MERIT INCREMENTS:

Date	Name	Rank	Clinical Area
2/1/69	Mary Condron	Assistant Professor	Nursing Fundamentals
"	Gellestrina DiMaggio	Professor	Maternal-Child Nursing
"	Virginia Earles*	Professor	Graduate Program
"	Alice Friedman	Assistant Professor	Nurs. of Child & Adult
"	Mary Helming	Professor	Nurs. of Child & Adult
"	Charlotte Hoglund *	Assistant Professor	Psychiatric Nursing
"	Karen Johnson*	Assistant Professor	Nursing Fundamentals
"	Elaine LaMonica	Instructor	Administration Of Nurs. Care
"	Benita Martocchio	Assistant Professor	Nurs. of Child & Adult
"	Jane Nicholson*	Associate Professor	Nursing Fundamentals
"	Alice Norman	Assistant Professor	Nurs. of Child & Adult
"	Constance Petrunenko	Assistant Professor	Community Nursing
"	Charlene Phelps	Assistant Professor	Nurs. of Child & Adult
"	Loretta Sharp	Associate Professor	Nurs. of Child & Adult
"	Ann Sheridan	Assistant Professor	Maternal-Child Nursing
"	Ruth Smith*	Assistant Professor	Community Nursing
"	Joan Sweeney	Assistant Professor	Nurs. of Child & Adult
"	Edith Walker	Assistant Professor	Maternal-child Nursing
"	Alvin Winder	Associate Professor	Psychiatric Nursing

* Merit Increment and Promotion.

TENURE:

Date	Name	Rank	Clinical Area
9/1/69	Virginia Earles	Professor	Graduate Program - Medical-Surgical Nursing
"	May Hall	Assistant Professor	Psychiatric Nursing
"	Jane Nicholson	Associate Professor	Nursing Fundamentals
"	Loretta Sharp	Associate Professor	Nurs. of Child & Adult
"	Helen Whitbeck	Assistant Professor	Psychiatric Nursing

CHANGE IN APPOINTMENT STATUS AND SALARY ADJUSTMENT:

(Academic Year to Calendar Year)

Date	Name	Rank	Clinical Area
2/1/69	Constance Petrunenko	Assistant Professor	Community Nursing - Project Director, Riverview Laboratory
"	Ruth Smith	Assistant Professor	Community Nursing

RESIGNATIONS:

Date	Name	Rank	Years of Service	Reason
6/69	Susan P. Cahoon	Clinical Instructor	1	Employed for one year
6/69	Gellestrina DiMaggio	Professor	14	Insterested in Nursing Service Administration and Research
6/69	Sophia Harrell	Assistant Professor	1	Travel too great a hardship. Young family.
6/69	Madeleine Lord	Instructor	1	Accepted a position closer to home at another University.
6/69	Charlene Phelps	Assistant Professor	4	Member of Nursing Research Team at Yale-New Haven University Hospital.
6/69	Katherine Ryan	Instructor	.5	Employed for one semester - had commitment to position as of Sept. 1969.
6/69	Joyce Wilkes	Clinical Instructor	1 (P.T.)	Employed for one year only.

SABBATICAL LEAVES:

Date	Name	Rank	Area of Study	Location
Fall 1968 (1 sem.)	Mary Helming	Professor	To develop a model for the nurse in caring for ambulatory patients in a general hospital.	Springfield Hospital Medical Center; Mass. General Hospital; Smith College School of Social Work.
Spring 1969 (1 sem.)	Edith Walker	Asst. Professor	Problems of Mothers in the Early Postpartum Period	Case Western Reserve Univ., Cleveland, Ohio.

STUDENTS AND CLIENTELE SERVED:

Categories -	Sept. 1966	Sept. 1967	Sept. 1968
Baccalaureate Program Nursing Major	253	280	312
Graduate Program Medical-Surgical Nursing	-	2	5
Sub-total:	253	282	317
Job-Related Work Conferences for Employed Registered Nurses (summer)	38	41	25
Sub-total:	38	41	25
GRAND TOTAL:	291	323	342

Secretarial -

Title	Grade	Number of Personnel Sept. 1966	Sept. 1967	Sept. 1968
Principal Clerk	9	1	1	1*
Junior Clerk-Stenographer	4	2	2	1**
Junior Clerk-Typist	3	1	1	1
Total		4	4	3

* No increment for 4 years.
** One (1) position frozen.

Comments:

- The inability of the Administration, over the past 4 years, to respond favorably as regards recommendation for a promotion or upgrading of the Principal Clerk has been discouraging, and indeed, demoralizing to the incumbent, other non-professional staff, to the professional staff, and to the Dean.

- The allocation of two Grade 4 and one Grade 3 positions to the School materially influences the calibre of the secretarial staff available. Repeated turnover in these positions due to the necessity of employing the wives of graduate students who are at the University for a limited period of time, places additional responsibility on the Principal Clerk and the faculty.

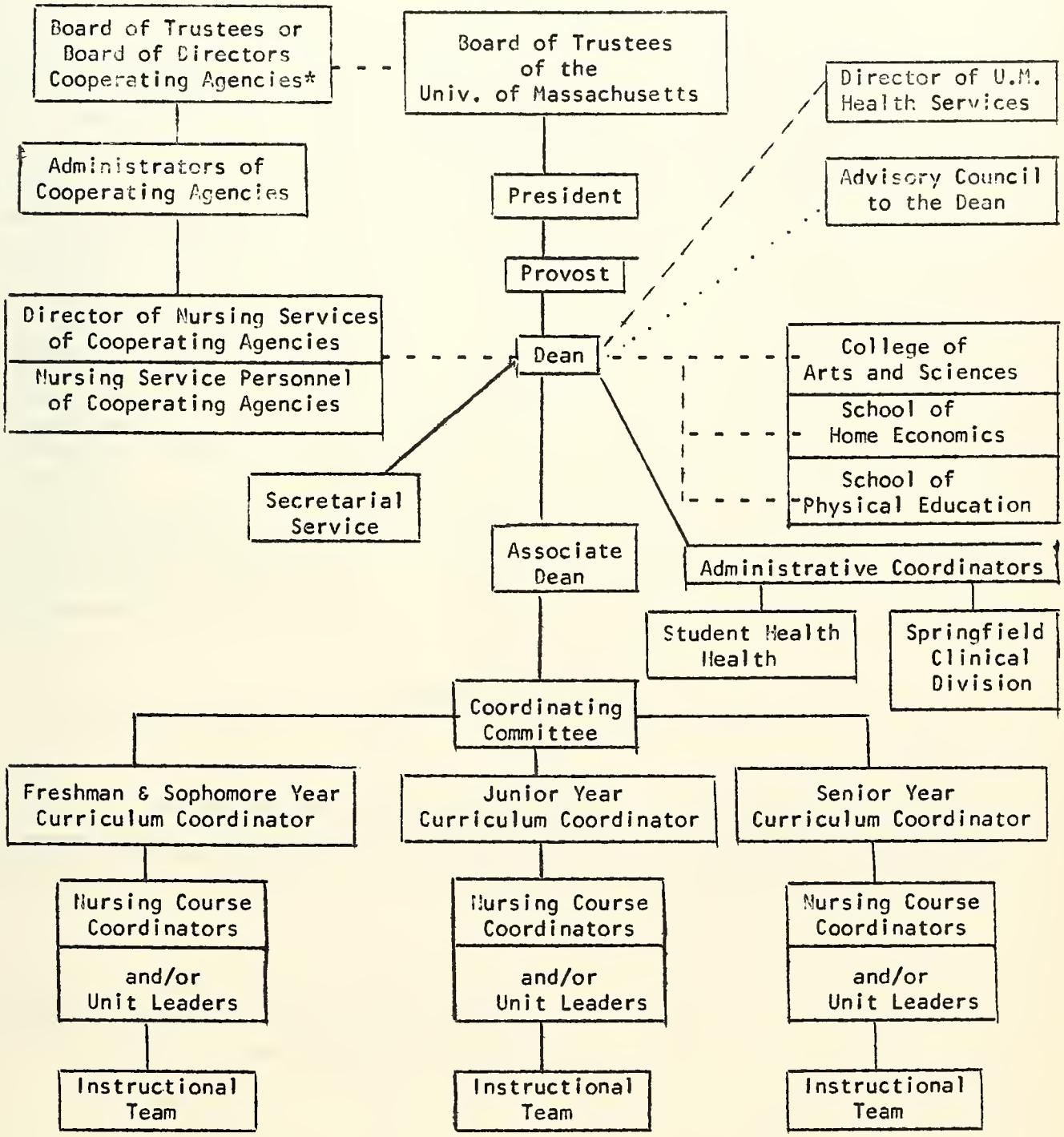
- The freezing of a vacancy (Grade 4) has created an extreme hardship on the School with an already limited number of personnel providing services to the Dean, Associate Dean and faculty. Present ratio: 1:11+.

- The geographic separation of the clinical resources (Springfield) from the campus requires the allocation of one full-time clerk to the Springfield Clinical Division.

N.B. With the increase in administrative responsibility due to additional students, and the details related to the different programs, the need for an Administrative Assistant is glaring.

UNIVERSITY OF MASSACHUSETTS
School of Nursing

Functional Chart of Organization



Legend:
_____ Direct Responsibility
- - - - Collaborative Relationship
. . . . Advisory Relationship

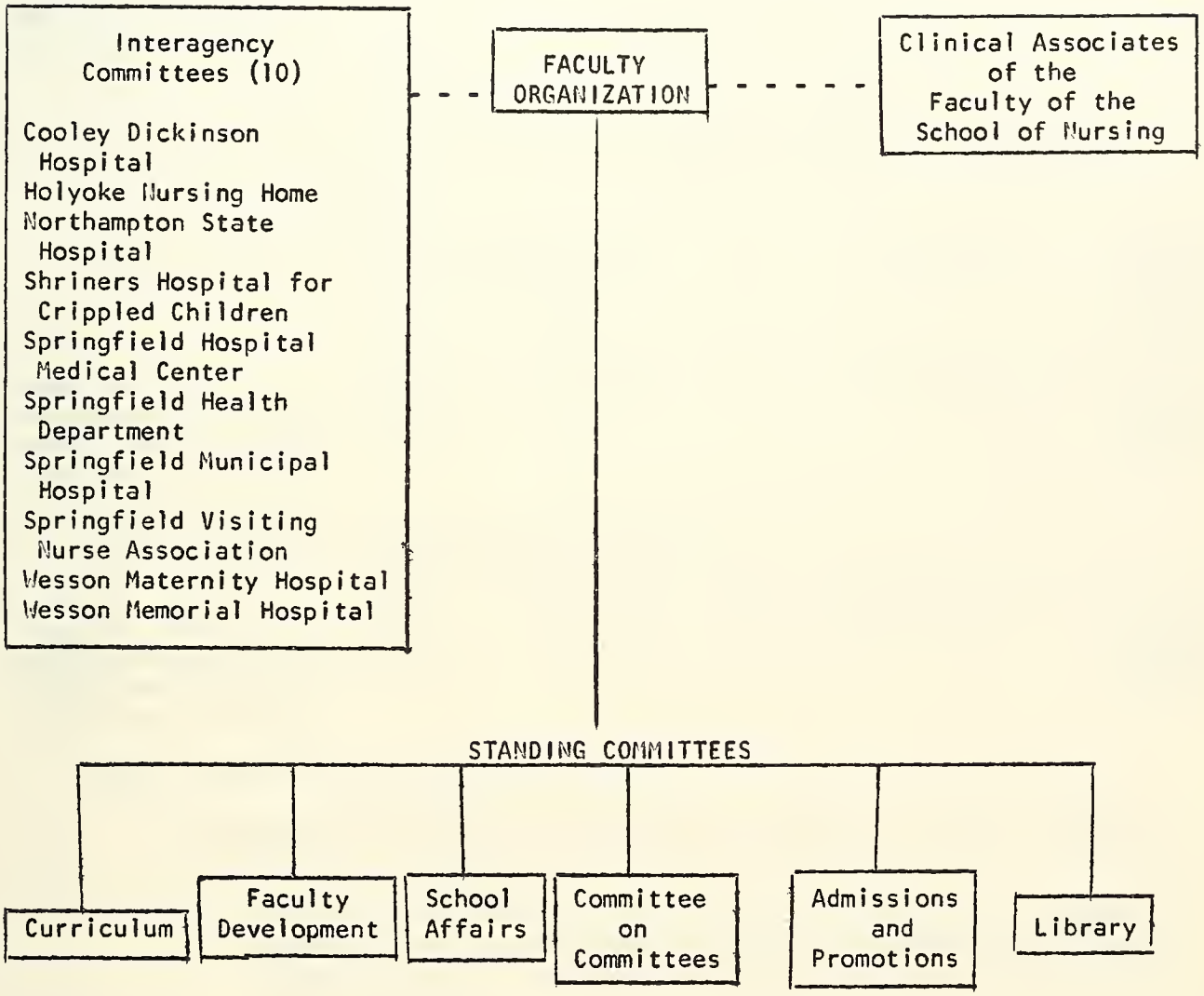
* Ten (10) Cooperating Agencies

7/69

UNIVERSITY OF MASSACHUSETTS
School of Nursing

Faculty Organization of School of Nursing

1968-1969



Legend: _____ Direct Responsibility

- - - - - Advisory Relationship

7/69

GRANTS:

Source	No.	Duration	Total Amount	First Year
Dept. of Health, Education, and Welfare, Public Health Service, National Institute of Mental Health - "Psychiatric Training for Baccalaureate Nursing Students"	5 T2 MH-6400-13	13th year ended 6/30/69	(1968-69) $35,937.00	
Grant Director: Mary A. Maher, Dean				
N.B. An extension of this grant for 5 additional years was approved on February 5, 1969.				
Grant Director: Mary A. Maher, Dean Co-Director: Dr. Alvin Winder			$134,785.00	$26,957 (7/1/69-6/30/70)
Dept. of Health, Education, and Welfare, Public Health Service, Division of Nursing	NPG - 367-01	5 years	$121,990.20	$28,512 (2/1/69-1/31/70)
Grant Director: Mrs. Constance Petrunenko				
Dept. of Health, Education, and Welfare, Public Health Service, Division of Nursing	N.T. 131	1 year	$ 17,358.00	$17,358 (1/1/69-8/31/69)
Grant Director: Miss Virginia Earles				
4 Graduate Traineeships (Tuition-Fees-Stipends) - Graduate Program in Medical-Surgical Nursing				
N.B. While the traineeships are allocated directly to the graduate students, and no funds are provided to the program, the Grant Award has made it possible for 4 qualified students to pursue graduate study.				
Faculty Research Grant University of Massachusetts		1 year	$ 350.00	
Director: Dr. Alvin Winder				
"Study of the Attitudes of Young Afro-American Women as to A Service Profession"				

CONSULTATION SERVICE:

Faculty Member	Agency	Nature of Consultation	Time
Virginia Earles	The Malden Hospital School of Nursing, Malden, Mass.	Curriculum & Evaluation	3 days
Gellestrina DiMaggio	Willimantic Community Hospital, Willimantic, Connecticut	Consultant to Barbara Kane, Director of Nursing - Reconstruction of Pediatric Nursing Unit	2 days 8/19/68; 2/17/69
	Mass. General Hospital - Priscilla Andrews, Project Director	Advisory Committee to the Pediatric Nurse Practitioner of Bunker Hill Health Center of the Mass. General Hosp.	4 days 9/20/68; 11/29/68; 1/3/69; 4/25/69
	Mass. General Hospital - Mary Macdonald, Director of Nursing	Evaluation of Pediatric Unit and Consultant to Director of Nursing Total 20 days*	14 days 9/27; 9/28; 9/30; 10/25; 11/15; 11/22/68; 1/3;1/17; 2/14;3/7; 4/4;4/25; 5/19; 6/4/69
	* Consultation to Nurse PractitiOner Committee of the Mass. Nurses Association and attendance at Mass. Nurses Association Scholarship Committee included in these dates.		
	Child Guidance Clinic of Springfield - Dr. Michael Green, Director	Board Member and attended monthly meetings.	
Dr. Lillian Goodman	Mass. Dept. of Public Health, Vera Griffin, Director	Inservice education	2 days 4/4/69; 6/6/69
Sophia Harrell	Mt. Wachusett Community College - Gardner, Mass. - President of College	Development of an Associate Degree Program in Nursing	2 days
	Henry Heywood Memorial Hospital, Gardner, Mass. - Administrator of Hospital	Phasing out of Diploma Program	1 day
Benita Martocchio	Springfield Hospital Medical Center, Springfield, Mass.	Informal, but continuous, consultation through the year to Nursing Staff on Wright I.	

Faculty Member	Agency	Nature of Consultation	Time
Loretta Sharp	Mass. Board of Registration in Nursing	Revision of nursing education (professional) standards	1 day
	Franklin County Public Hospital, Greenfield, Mass.	Clinical consultation to Pediatric Nursing Staff	5 days
Janet Simmons	Mt. Wachusett Community College, Gardner, Mass. - President of College	Development of an Associate Degree Program in Nursing	2 days
	Henry Heywood Memorial Hospital, Gardner, Mass. - Administrator of the Hospital	Phasing out of Diploma Program	1 day
Dr. Alvin Winder	Children's Study Home, Springfield, Mass.	Consultant to James Bell, Agency Director	1 day/ week - 9/68-5/69
Madeleine Lord	Visiting Nurse Association of Springfield	Continuous consultation to inexperienced staff as to nursing care, personnel problems, and administration	2 sem.
Ruth Smith	Visiting Nurse Association of Springfield	Continuous consultation to inexperienced staff as to nursing care, personnel problems, and administration	2 sem.
Constance Petrunenko	Visiting Nurse Association of Springfield	Continuous consultation to inexperienced staff as to nursing care, personnel problems, and administration	2 sem.

PUBLICATIONS:

Gellestrina DiMaggio. "The Child With Asthma", Nursing Clinics of North America - Nursing in Respiratory Diseases, Vol. 3, No. 3. Phila.: W. B. Saunders Co., September, 1968.

Virginia Earles. "Physiological Concepts in Contemporary Nursing", A Guide to the Nurse Returning to Practice, Ed., Signe Cooper, McGraw-Hill Book Co. (in process)

Virginia Earles. "Oxygen Toxicity", Script and Tape for Nursing Dial Access, University of Wisconsin, Extension Service.

Mary G. Helming, Ed. Nursing in Respiratory Diseases, Nursing Clinics of North America, Vol. 3, No. 3. Phila.: W. B. Saunders Co., September, 1968.

N.B. 5000 copies ordered by the National Tuberculosis and Respiratory Disease Association for distribution to their Chapters.

Mary G. Helming. "Portrait - Mary E. Macdonald", The Quarterly Periodical, Mass. General Hospital Alumnae Association, Winter, 1969, pp. 5-8.

Anne Lee. - "Racial Definitions in the U. S. Census in Historical Perspective" (in process)

- Editor-Reader on Family Planning for Population Council, Inc., New York City
- Editorial Consultant - Demography
- Pamphlet (co-author) - U. S. Census for the Center on Information on America, Connecticut

Benita Martocchio. Research Project - Socioeconomic Bias and the Measurement of Chronic Illness (in process)

Alice Friedman. "The Patient with Chronic Obstructive Lung Disease and His Care at Home", Nursing Clinics of North America, Vol. 3, No. 3. Phila.: W. B. Saunders Co., September, 1968.

Dr. Alvin Winder.

Articles:

Submitted to TRANS-ACTION

Group Counseling for Unmotivated Youth: An Attempt to Stimulate Vocational Choice - (co-author with Nicholoi Savenko)

Submitted to NATIONAL EDUCATION ASSOCIATION

Who Brings Home the Best Report Card?

Submitted to the NEW ENGLAND JOURNAL OF ENGLISH

A Sensitivity Group Tries Captain Vere (co-author with Barbara Winder)

Evaluation of a Design for Training Co-trainers (co-author with Dee G. Appley)

CONTRIBUTIONS TO PROFESSIONAL ORGANIZATIONS:

Karen Johnson, Speaker: Mass. Heart Association, Springfield Region "Nursing Care of the Patient with Congestive Heart Failure"

Lillian Goodman, Member: Mass. Board of Higher Education Advisory Council on Nursing Education

Mary Helming, Representative of Mass. Nurses Association: Mass. Board of Higher Education Advisory Council on Nursing Education

Vice President: Mass. Nurses Association

Anne Lee - Paper read at the New England Public Health Association Annual Meeting, Portsmouth, New Hampshire

Virginia Earles, Chairman: New England Board of Higher Education Special Interest Group on Graduate Education

Mary A. Maher, Member: Mass. Board of Registration in Nursing
Member: Mass. Committee on Children and Youth

CONTRIBUTIONS TO UNIVERSITY:

Residence Fellows:

Gellestrina DiMaggio - Eugene Field House

Alice Friedman - Orchard Hill Complex

Dr. Alvin Winder - Orchard Hill Complex

Mary Helming - Thoreau House

May Hall - Coolidge House

Karen Johnson - Thoreau House

University Committees:

Virginia Earles, Member - Academic Matters

Jane Nicholson, Member - Admissions and Records

Karen Johnson - Committee on Committees
- Student Affairs

Constance Petrunenko - Health Council

Gellestrina DiMaggio - Master Planning

Elizabeth Clarke - Scholarship and Financial Aid

Alice Norman - Summer Session

Mary Condron - Tenure and Grievance

Ann Sheridan - University Affairs

Mary A. Maher - Deans' Council

Dr. Alvin Winder - Upward Bound - Chairman
- Counselor Training - Member

Alice Friedman - Faculty Senate

Karen Johnson - Faculty Senate

Dr. Alvin Winder - Faculty Senate

Mary A. Maher - Faculty Senate

Standing Committees of the School:

Committee on Committees

Virginia Earles, Chairman
Mary Condron
Gellestrina DiMaggio
Loretta Eiben
Ruth Smith

Faculty Organization

Mary A. Maher, Chairman
Elizabeth Clarke, Secretary
All Faculty

Admissions and Promotions

Mary Condron, Chairman
Karen Johnson, Secretary
Faye Moore
Ann Sheridan
Ruth Smith

Faculty Development

Joan Sweeney, Chairman
Susan Cahoon, Secretary
Elizabeth Clarke (spring sem.)
Mary Helming
Joan Millett
Janet Simmons
Edith Walker (fall sem.)
Alvin Winder

Library

Alice Norman, Chairman
Loretta Eiben, Secretary
May Hall
Constance Petrunenko
Sophia Harrell

Students

Ellen Buchman
Tonya Shepeluk

Curriculum

Charlene Phelps, Chairman
Benita Martocchio, Secretary
Virginia Earles
Alice Friedman
Lillian Goodman (spring sem.)
Elaine LaMonica
Jane Nicholson
Loretta Sharp

Students

Barbara Daly
Rita Wotring
Linda Wolk (alternate)

School Affairs

Gellestrina DiMaggio, Chairman
Helen Whitbeck, Secretary
Madeleine Lord
Madeline Murphy

Students

Darlene Battles
Randi Olsen
Marjorie Peterson
Lois Markiewicz
George Hardison

Graduate Committee

Virginia Earles, Chairman
Loretta Sharp, Secretary
Gellestrina DiMaggio
Alice Friedman
Lillian Goodman (spring sem.)
Mary Helming
Mary Maher
Benita Martocchio
Charlene Phelps

Interagency Administrative Committees:

Cooley Dickinson Hospital

Mary A. Maher, Chairman
Karen Johnson, Secretary
Loretta Eiben
Charlotte Hoglund
Miriam Rand
Charlotte Otis
Mrs. M. O'Brien

Visiting Nurse Association and
Springfield Health Department

Constance Petrunenko, Chairman (fall sem.)
Ruth Smith, Chairman (spring sem.)
Madeleine Lord
Katherine Ryan (spring sem.)
Helen Jay
Helen Liddell
Phyllis Harris

The Holyoke Nursing Home

Mary A. Maher, Chairman
Jane Nicholson, Secretary
Mary Condron
Loretta Sharp
Alice Norman
Mrs. M. Mooney

Northampton State Hospital

Mary A. Maher, Chairman
May Hall, Secretary
Lillian Goodman (spring sem.)
Helen Whitbeck
Janet Simmons
Florence Eaton

Springfield Hospital Medical Center

Mary A. Maher, Chairman
Loretta Sharp, Secretary
Gellestrina DiMaggio
Alice Norman
Charlene Phelps
Jeanne Murphy
Barbara Bates
Patricia Miller
Lillian Levesque
Mary Tudor

Springfield Municipal Hospital

Mary A. Maher, Chairman
Loretta Sharp, Secretary
Alice Norman
Miss Baril

Wesson Maternity Hospital

Mary A. Maher, Chairman
Edith Walker, Secretary (fall sem.)
Sophia Harrell, Secretary (spring sem.)
Gellestrina DiMaggio
Joan Millett
Madeleine Lord
Constance Petrunenko
Ruth Smith
Margaret Hogan
Mrs. R. Krol
Mrs. Holoway
Miss Mitchell
Miss Wingard
Mrs. Cavanaugh

Wesson Memorial Hospital

Jane Nicholson, Chairman
Karen Johnson, Secretary
Elizabeth Clarke
Mary Condron
Elaine LaMonica
Madeline Murphy
Anne Mitton
Beverly Briggs

Advisory Council to the Dean

Mary A. Maher, Chairman
Charlene Phelps, Secretary
Elizabeth Clarke
Gellestrina DiMaggio
Virginia Earles
Alice Friedman
Lillian Goodman (spring sem.)
Mary Helming
Jane Nicholson
Ann Sheridan
Loretta Sharp
Alvin Winder

Administrative Coordinators

Gellestrina DiMaggio - Springfield Hospital Medical Center
Constance Petrunenko - Student Health Program (fall sem.)
Madeleine Lord - Student Health Program (spring sem.)

MAJOR ACCOMPLISHMENTS:

I. Professional Accreditation:

The Board of Review of Baccalaureate and Higher Degree Programs in Nursing voted to:

1) extend accreditation to the generic program admitting qualified high school students for eight years. Next visit in Fall of 1976.

2) to grant "reasonable assurance of accreditation" of the graduate program in Medical-Surgical Nursing to the Fall of 1970. Application for full accreditation will be submitted by June 1970 when the first class will have graduated.

II. Curriculum Study:

The Curriculum Committee worked untiringly again this year. Recommendations emanating from the National League for Nursing Board of Review were utilized by the Committee . Options for curriculum revision were presented to the entire faculty and discussion followed. The proposal of a five year, or a four year and two summer sessions curriculum for the baccalaureate program was seriously discussed. Because of the concern of some faculty members over the extension of the curriculum beyond a four academic year period, and the nature of the curriculum design, a consultant in curriculum met with the faculty for a day. Inasmuch as the report of the Curriculum Consultant was delayed, there was insufficient time to thoroughly review and consider her impressions before the end of the school year. It is anticipated that the entire faculty will be involved in curriculum revision during 1969-70. If possible, a Director will be assigned to the Curriculum Project.

III. Grants:

- Mental Health-Psychiatric Nursing (Integration of Psychiatric-Mental Health Concepts in the Baccalaureate Program)

  Approval of and support by the National Institute of Mental Health of our Grant Proposal (8/1/69-6/30/74) will make it possible for the students to gain a broader appreciation and knowledge of the various components of comprehensive mental health services for families. Learning experiences in the community where preventive, early detective treatment and rehabilitative services are available will enrich and extend the student's learning.

  A bold new approach has been taken beginning this year. Freshman students were involved in Sensitivity Training, and five (5) nursing faculty have received training as Co-leaders. Since nursing, as all caring professions, is concerned basically with people, the freshman students were being oriented to the concepts inherent in a helping relationship-

- Improvement in Nursing Training - NPG-367-01

  The funding of our grant proposal for Developing a Laboratory in Community Nursing was approved by the U. S. Public Health Service, Division of Nursing, for five (5) years beginning Feb. 1, 1969.

The grant has made it possible to:

- appoint a Project Director, on a calendar year basis, for the purpose of identifying, developing and extending the learning experiences for an increased number of students in a concentrated geographic area of Springfield whose population consists of a preponderence of Black and Puerto Rican families.

- appoint a Public Health Nurse faculty member, on a calendar year basis, for the purpose of directing the students providing public health nursing to the children attending Well Child Conferences, in schools, and to families in the geographic area.

Medical service to the citizens of the Brightwood area has been provided by the Ambulatory Services of the Springfield Hospital Medical Center. Actually, these services are viewed as an extension of the Medical Center's Ambulatory Services.
Families heretofore were unable to make use of the clinical services in the Springfield hospitals because of the distance from home to the hospitals, travel cost, and long waiting periods. They are now experiencing the availability of medical and pediatric services.

Despite the several factors which would have discouraged a less dedicated team of doctors and nurses, the attitude toward improving the health of the families has been most consistently positive.

- Limitation in space and equipment.
- Language barriers (Spanish speaking families).
- Minimum amount of service to the families

  .. Medical Clinics - 2 days
  .. Pediatric Clinics - 1 day

The necessity for a comprehensive health center becomes increasingly obvious as the multiple problems facing the families are seen by professional people who have a humanistic concern for people. Change in community attitude, as well as the attitude of some members of the medical profession,must occur before the possibility of promoting a health center can ever be realized.

The potentials for enriched learning experiences have only begun to be identified in this four month period.

- Traineeships for Graduate Program in Medical-Surgical Nursing

Traineeships were granted in February 1969 to four (4) graduate nurses enrolled for full-time study under this program. Though traineeships bring no revenue to the School of Nursing, the financial support to the students has enabled them to initiate study sooner than would otherwise have been possible. The School's contribution to the preparation of students with advanced preparation in Medical-Surgical Nursing has enhanced our image in the Commonwealth.

It is anticipated that traineeships will continue for the students already enrolled, and that our request for additional traineeships for first year graduate students will be forthcoming.

- Faculty Grant

A Faculty Grant for the purpose of studying the Attitudes of Young Afro-American Women as to Professional Service has been funded. This is the initial step in the School's plan to interest Black students in Springfield in the rewards and values of professional nursing. Relatively few high school graduates from Springfield, with a large Black population, seek admission to professional schools of nursing.

IV. Admission of Qualified R.N. Students to Baccalaureate Degree Nursing Program:

Commencing in September 1969, fourteen (14) graduate nurses will be admitted to the baccalaureate program (two of whom are men students).

It is anticipated that the demand for this program will materially increase in the next few years.

V. Faculty Development:

"Unless people and society are ever revewing themselves and inventing new institutions and mechanisms to serve their needs, atrophy and death must result." (John W. Gardner)

Staff development is viewed as the instrumentality whereby the faculty as a whole, and/or as individuals, aim to become:

- aware of the direction of professional nursing organization as to nursing education.
- oriented to newer developments in curriculum.
- currently aware of the changes in nursing practice.
- involved in the improvement of faculty interaction and the inter-group process.
- familiar with the goals and directions of interrelated professional organizations.
- prepared in specialized area of nursing.

To attain these goals, the following avenues are available:

- development of ongoing program based on the interest and needs of the faculty.
- attendance at work conferences.
- visitation to other university schools of nursing.
- sabbatical leaves.

The Committee on Faculty Development has determined the interest of the faculty as to a program (by questionnaire) at the end of the spring semester. Areas selected are shared with the faculty and a program is arranged.

1968-69

September - Pre-semester Work Conference, Oak 'n Spruce, Lee, Mass.

Jan. 20, 1969 - Panel and Discussion: "Contributions of Students to Faculty Committees"

Feb. 27, 1969 -"ODWIN - Its Purposes and Progress" - Jean Scheinfeldt

"Warrendale" - Film - Discussion Leader, Dr. Alvin Winder (Research Approach to Care of Mentally Disturbed Adolescents)

May 2, 1969 - Introduction to Group Process

Coordinator: Dr. Alvin Winder
Leaders: Group A - Dr. Alice Sargent, Director of Group Training and Associate Dean of Students
Group B - Dr. Dee Appley, Professor of Psychology

VI. Attendance at Professional Meetings:

Date	Nature of Meeting	Faculty Attending
10/11/68	Annual Meeting, Mass. Nurses Association, District I, Lee, Mass.	Madeleine Lord
10/16/68 & 11/21/68	Blue Cross-Blue Shield, Boston, Mass. Mass. Home Health Agencies, Providence, R.I.	Madeleine Lord
10/31; 11/1; 12/18; and 4/30/69	Mass. Board of Higher Education Conference on Nursing Education, Weston, Mass.	G. T. DiMaggio Mary Maher Virginia Earles Lillian Goodman Mary Helming
11/12-16/68	N.L.N. Council of Baccalaureate and Higher Degree Programs, Phoenix, Arizona	Virginia Earles Mary Maher
11/19/68	Regional Conference on Obstetrics, Gynecology and Neo-Natal Nursing, Hartford, Conn.	G. T. DiMaggio Sophia Harrell Joan Millett Edith Walker
11/6-7/68	Regional Conference - National Foundation Genetic Counseling, Boston, Mass.	Madeleine Lord Constance Petrunenko Ruth Smith
1/7/69	Regional Conference - National Foundation Birth Defects	Madeleine Lord C. Petrunenko Ruth Smith
1/29-30/69	Regional Conference - N.L.N., New York City Nursing in Long-Term Cardiac Diseases	Faye Moore Joan Sweeney
2/7/69	Mass. Legislative Clearing House, Boston, Mass.	Madeleine Lord

Date	Nature of Meeting	Faculty Attending
3/3 & 4/10/69	Western Mass. Heart Association, Springfield, Mass. - "Planning Educational Programs for Public Health Nurses"	Madeleine Lord
3/30-31/69	Orthopsychiatric Annual Meeting, New York City	G. T. DiMaggio Alice Friedman Ann Sheridan
4/25/69	American Psychiatric Committee on Psychiatric Nursing, Boston College, Boston, Mass.	Dr. Alvin Winder May Hall
4/69	Population Association of America, Atlantic City, New Jersey	Anne Lee
4/21/69	Regional Meeting - Exploration of Public Health Nursing Service and Nursing Education, Boston University School of Nursing, Boston, Mass.	Madeleine Lord C. Petrunenko Katherine Ryan Ruth Smith
5/1-2/69	Mass. Eye and Ear Infirmary, Boston, Mass. New Treatments in Eye and Ear Diseases	Faye Moore
5/9-10/69	American Association of Child Care in Hospitals, Ann Arbor, Michigan	G. T. DiMaggio Ann Sheridan
5/15/23/69	N.L.N. Biennial Convention, Detroit, Mich.	Elizabeth Clarke Karen Johnson Jane Nicholson Ann Sheridan
5/21/23/69	New England Public Health Association Annual Convention, Portsmouth, New Hampshire	Madeleine Lord C. Petrunenko Katherine Ryan Ruth Smith
5/26/69	Perinatal Nurse Practitioner, Yale-New Haven Medical Center, New Haven, Conn.	G. T. DiMaggio

Co-Leaders Training: (Sensitivity Training)

Five (5) faculty members functioning as Co-leaders in Nursing 100 met periodically throughout the year with Dr. Dee Appley, Dr. Alvin Winder and graduate students in clinical psychology participating in sensitivity training. These sessions provided an opportunity to openly discuss factors related to the Leader and Co-leaders roles and relationships and to plan for future meetings.

The faculty, some of whom had had limited experience in Sensitivity Training, reported the relevance of these experiences to their role as teachers as well as to their personal self actualization.

Post-Master's Study:

Alice Friedman

Sociology 103 - Introduction to Physical Anthropology (audit)

Benita Martocchio

Sociology 278 - Criminology (summer 1968)
Sociology 275 - Special Problems (fall 1968)
Sociology 286 - Sociology of Medicine (spring 1969)

Gellestrina DiMaggio

National Institute Training Laboratory - Summer 1968
Workshop - William Shultz and members of Esselan - Dec. 12-17, 1968

VII. Student Achievement:

Perhaps one of the greatest satisfactions of the faculty of a School is the achievement of its students. Objective evaluation is reflected by:

1. Students on the Dean's List: (Cumulative Quality Point 3.0 or above)

Class	Fall 1968	Spring 1969
Freshmen	12	12
Sophomores	21	20
Juniors	10	12
Seniors	11	10
Total:	54	54

2. State Board Examination Scores (Class of 1968):

Passing score in all subjects is 350.

Lowest Score - 441.2
Highest Score - 681.2
Class Average - 568.9

3. Honors at Graduation:

Magna Cum Laude
- Diane Wills
- Joanne Wills

Cum Laude
- Muriel Bolduc
- Barbara Daly
- Diane DiNapoli
- Cynthia Lindahl
- Aline MacDonnell
- Maureen Maher
- Diane McDonald
- Elaine Paul

4. Honors Course Nursing Studies:

While at least a third of the junior and senior students meet the criteria for the upper division (optional) honors courses, a limited number enroll. The courses are research oriented and a study is required of the seniors. Several reasons have been given by the students for not enrolling in these upper division courses, others have been speculated by the faculty:

- the demands in time and energy of the program of study in the junior and senior year
- concern with grades and a preoccupation with the cumulative quality point average which would meet the requirements for admission to a graduate program
- research as an essential tool for a graduate of a professional program is not within the student's value system
- the relatively few faculty members committed to research, therefore, the students have limited role models to emulate
- the faculty interested in serving as preceptors to the students carry this responsibility in addition to their heavy contact hours

5. University Honors Program:

Our first student was admitted to University Honors this year. The nature of her research was relevant and the completed study was of high quality.

Barbara Daly - IDENTIFYING PATIENT'S PERCEIVED TEACHING NEEDS

6. Student Representation on Faculty Standing Committees:

Curriculum Committee	3 students
Library Committee	2 students
School Affairs Committee	5 students

7. Student-Faculty Dialogue:

A beginning has been made whereby students and faculty are encouraged to openly discuss the problems of mutual concern. Three such meetings held in residence halls proved to be helpful.

Informal student-faculty coffee hours have further helped to encourage communication.

8. Honor Society of the School:

Students and faculty advisors continue to work untiringly to prepare for the approval of the initiation of a Chapter of Sigma Theta Tau. The honor society functions according to the policies and practices of the National Honor Society. It is anticipated that full accreditation will be afforded by the National League for Nursing to our graduate program by the Spring of 1970. A new application for membership in Sigma Theta Tau will then be filed.

9. Student Contribution to the Community:

Participation in Immunization Survey sponsored by the Massachusetts Department of Public Health - "To determine the immunization status of all members of the family of newborn infants." Five hundred eighty-six (586) visits were made to individual families by sixteen (16) students through January 1968.

Request for student participation was made by Mr. Max Garber, Epidemiologist, Mass. Department of Public Health, Western Mass. Region (Amherst) in behalf of local Boards of Health of the smaller towns in the Amherst region not employing a public health nurse. It would have been difficult, if indeed impossible, for the local Boards of Health to have collected this important data had the students' services not been available.

FUTURE NEEDS AND PLANS:

Faculty:

The prerequisite for a clinical nursing program includes a qualified faculty; a student-faculty ratio which fosters support and direction of well selected students in the clinical setting and clinical resources which provide an educational milieu.

The need for recruiting highly qualified faculty at the rank of associate and full professor still remains a great concern to the faculty. This is compounded as the School anticipates additional graduate programs. Incentives, over and above those presently available, must also be provided to junior faculty.

The competition with departments of the State (Mental and Public Health) has become an increasing factor to recognize.

- salaries in these departments have been increased materially and are now competitive
- a professional nurse employed by these departments may have an educational leave (at full salary) for preparation for a position at a higher level. (Example: Can take 2 years educational leave; 4 years of service to the State upon returning to the department.)
- the increase in Public Community College Nursing programs.

The competition with private service agencies for qualified nursing service personnel and the competition in private diploma nursing programs are other factors which must be considered.

Industry has long recognized the value of encouraging highly motivated and capable junior employees through early promotion and educational leave with salary.

If schools of nursing in the public sector are to compete with service agencies, it seems apparent that provisions should be made whereby the outstanding faculty members are eligible for an educational leave with salary, before the seventh year of service. The adherence to the sabbatical leave policies of Institutions of Higher EDucation seems archaic and worthy of critical review. It seems incredible that policies within departments of the

State for educational leave are more flexible than the very institutions which foster sabbatical leave practices.

> "Sometimes institutions are simply the sum of historical accidents that have happened to them. Like sandunes in the desert, they are shaped by influence not by purpose."
>
> (John W. Gardner)

Calendar year appointments -

As changes in the undergraduate program, and as graduate programs extend, it is reasonable to expect that the program director's appointment must be on a calendar year. The many details associated with each program requires that considerable work, and some teaching, will be effected during the summer period.

Clinical Resources: (Western Massachusetts)

Clinical resources and facilities at the Springfield Clinical Division are becoming less available to the School for the following reasons -

- Increase in the number of students utilizing the same facilities.
- Iniation of graduate programs at the University.
- Commitment of the Springfield and Holyoke Hospitals to Associate Degree Programs which are in the planning stages
  - .. Springfield Technical Institute - Associate Degree Nursing Program - 1970
  - .. Holyoke Community College, Associate Degree Nursing Program - ?1971

In 1968-69, it became necessary to develop three additional cooperating agencies: 1) The Municipal Hospital, Springfield; 2) The Shriners Hospital for Crippled Children; 3) The Holyoke Nursing Home. The necessity of utilizing several different clinical resources for teaching results in educationally unsound outcomes, namely:

- the students' learning experiences are fragmented;
- the time assignment negatively influences the instructor's ability to evaluate the student's performance;
- the teaching team is distraught.

Collaboration with the University of Massachusetts Medical Center:

Since the Governor has acted affirmatively as to the Medical Center and the University Hospital in Worcester, negotiations must go forward with the Dean of the Medical School and his staff for the planning. The liaison committee of the faculty will be reactivated in the fall. Presently, Dr. Lillian Goodman, Associate Dean, has served as the liaison person.

School of Nursing Facility:

The space allocated to the School of Nursing in the Western Massachusetts Public Health Center building and in Morrill IV North is totally inadequate. (7380 square feet, including dead space - storerooms and janitor's room)

While the faculty and students have increased, the space allocation has lessened. Space allocated to the School in Morrill IV North has been usurped for classrooms for other Schools in the University for the past two years. As a result, minimum requirements for a qualitative educational program are absent:

- inadequate office space - offices designed for one member are presently occupied by 2 and 3 faculty members
- space allocated for a Coat Room, with inadequate lighting, is presently used by two faculty members
- graduate students have no space allocated to them for study and/or relaxation
- small rooms for group conferences are absent
- there are no student and faculty lounges

Secretarial Staff:

The secretarial staff, for the most part, is inadequate in number, preparation and experience.

The discontinuity of secretarial staff (except for the Principal Clerk) may well be attributed to the grade classification. Such discontinuity is most frustrating to the faculty. Recruitment at grade 3 and 4 limits the choice of candidates largely to wives of graduate students, hence a constant turnover. N.B. Reference to the lack of upgrading or promotion of the one Principal Clerk has been referred to elsewhere in the report.

The separation of campus and the Springfield Clinical Division compounds the secretarial problem.

Administrative Assistant:

Several functions which would well come within the perview of an Administrative Assistant are assumed by faculty members who are already saddled with heavy contact hours.

The administrative detail related to the students in the various programs (Baccalaureate, Registered Nurses, Graduate) in effect are those usually carried by a Registrar in a School of similar size.

Equipment:

For the past four years, the faculty has requested audio visual material and equipment, materials for programmed instruction, and for instruction by closed television. The continued small equipment allotment (1968 - $500; 1969-- $500) prohibited the purchase of such equipment as would extend the use of available faculty and enhance the teaching.

Reorganization of the School:

The faculty has unanimously recommended a structure which will provide for departmentalization. Plans are underway to develop an organization structure which will more adequately meet the needs of the School.

Continuation of Curriculum Study:

The faculty is definitely divided as regards the administrative decision for the necessity of continued study of curriculum revision. It was felt that the recommendations of the Curriculum Consultant require carefully studied approach preliminary to next year's involvement by the faculty. To achieve our goal, it is necessary to secure a full-time qualified person to direct the study.

Implementing the Study of Nursing Education in Massachusetts:

The University Administration is aware and supportive of the role which the University is expected to play if top level faculty, administrators, and research personnel are to be prepared for our Commonwealth.

- Initiation of Graduate Programs:

  .. Psychiatric-Mental Health Nursing by September 1970
  .. Maternity Nursing by or prior to September 1970 or 1971
  .. Public Health Nursing prior to or by September 1971 or 1972

- Continued admission of qualified R.N. students.
- Summer School offerings.

Projected Ten-Year Plan:

The Ten-Year Plan of the School of Nursing (Exhibit I - 1970-80), accepted by the faculty, provides a blueprint for the future. In the overall plan, smaller classes of baccalaureate nursing will be admitted (commencing in 1972-73) while admission to the graduate programs will be accelerated.

Baccalaureate Nursing Program -

The baccalaureate nursing students admitted to the School in September 1970 (freshman and transfer students) must be even more highly selected than is our present practice. This policy will inevitably result in a smaller enrollment. It is, however, essential that our major thrust be focused upon recruitment of selected students interested in scholarly pursuit and a zest for continued learning. Rapid movement into master's programs must be fostered.

N.B. As additional baccalaureate nursing programs[1] are developed within the state system, the University School of Nursing is in a unique position to develop a program which will attract such students.

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(1) State Instututions of Higher Education:

Providing Baccalaureate Nursing Education	Developing Programs
Fitchburg	Southeastern Mass. University - New Bedford
Lowell	Salem State College

Projected Student Enrollment - 10 Year Plan

	Freshmen	Sophomore	Junior	Senior	5th Year	Sub-Total	Med Surg	Psych.	Pub Hlth.	Maternity	Mat. & Child	Ped.	Sub. Total	Grand Total	Est. # in Hed. Ctr. @ given time	Faculty Student Ratio
[illegible]	95	75	95	80		350	15						15	365		37
[illegible]	20	90	95	85		350	25	5					30	380		38
[illegible]	70	80	90	85		325	30	15	5				50	375		38
1972-73	60	70	80	90		300	30	25	5	5			75	375		38
1973-74	50	60	70	80		260	30	30	20	15	5		100	360		36
1974-75	50	[illegible]	60	70		230	30	30	20	20	15	5	115	345	41	35
1975-76	50	50	50	60		210	[illegible]	30	20	20	20	15	135	345	21	35
[illegible]	[illegible]	[illegible]	50	50		[illegible]	30	30	20	20	[illegible]	[illegible]	[illegible]	340	97	34
[illegible]	[illegible]	50	50	[illegible]	50	250	30	30	20	20	20	20	[illegible]	390	173	39
[illegible]	[illegible]	50	[illegible]	50	50	250	30	30	20	20	20	20	[illegible]	390	173	39

Estimated time of opening of University Hospital at Worcester, Massachusetts

[illegible] figure [illegible] on freshman enrollment of 95 students in 1969-70 with a graduated decrease until a level of 50 [illegible] students is reached in 1975. There is no reduction of numbers for these classes with the assumption that there [illegible] transfer students and students with advanced standing who will fill the spaces created by normal attrition.

[illegible] graduate programs will be opened [illegible] the sequence indicated

[illegible] estimated number of students in the University Hospital is based on 50% of [illegible] division baccalaureate [illegible], plus one half of graduate students in Medical-Surgical Nursing and Pediatric Nursing, plus one quarter of graduate students in Psychiatric Nursing, Maternity Nursing, Maternal and Child Nursing, and Public Health Nursing.

Graduate Programs -

The Massachusetts Board of Higher Education (Malone Study[2]) has charged the University, through its School of Nursing, with the responsibility of developing graduate programs in nursing (Master's and Doctoral). The University is viewed by the Board as being in a strategic position to assume a leadership role in preparing qualified graduates for faculty positions, nurse clinicians, and leaders in the administration of nursing care. Indeed the recommendation was afforded the highest priority by the Board primarily because of the dearth of faculty for schools of nursing (all levels of nursing education), leaders in nursing education, and administration of nursing care.

The charge has been accepted by the faculty and a time-table has been established:

1967 - Medical-Surgical Nursing - leading to a Master's degree

- Preliminary discussion as to the possibility of providing summer programs in Medical-Surgical Nursing leading to a Master's degree has gone forward. The planning phase is yet to be initiated. If such a program materializes, the need for continuity of the faculty member assuming the administrative role will be a necessity.

1970 - Psychiatric-Mental Health Nursing - program so designed as to encourage progression from the Master's to the Doctoral Degree

- A qualified candidate has been recruited (Ph.D., N.S.) for September 1969. She will assume the primary responsibility for planning the curriculum and preparing a grant proposal for submittal to the National Institute of Mental Health. Hopefully, a model for collaboration between two state agencies (University of Massachusetts and the Department of Mental Health) each dedicated to the concept of education as the instrumentality for providing qualitative care, can be developed.

1971 (or earlier) - Maternity Nursing

- Recruitment has been initiated for a qualified person. When she is appointed, planning for this program will be initiated no later than 1971.

1972 - Public Health Nursing

- Positive steps to recruit a faculty member to plan and implement this program have as yet to be initiated.

The director of each graduate program will be involved in developing a theoretical frame-of-reference as a basis for determining course content, sequence, as well as the clinical nursing experience. Interdisciplinary planning with representatives of related professional faculty members at the University (Amherst) and the University Medical Center (Worcester) needs to go forward early in the initiation of each program.

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(2) Mary Malone. Educational Horizons for Nursing in Massachusetts, Mass. Board of Higher Education, Boston, 1968.

Preparation for the triad role and responsibility of graduates of advanced programs to function in leadership roles in teaching, research and improved nursing practice is an accepted goal.

Faculty for Graduate Programs - The criteria for faculty teaching in higher degree programs in nursing (Master's or Doctoral) states that such faculty should be prepared in the clinical area for which she assumes a responsibility at the doctoral level.

The availability of nursing faculty holding doctoral degrees has increased very slowly.

SUMMARY:

Problems within the School continue to be accepted as challenges by the faculty.

The appointment of an Associate Dean in February, 1969 (position was vacant for 3.5 years) holds promise for the future. As Dean of Academic Affairs, she will work closely with the faculty and students.

Director of Graduate Programs - Graduate programs, particularly at the Master's level, appears to have considerable similarity in their degree requirement. The possibility of recruiting a faculty member with a doctoral degree who has had broad educational preparation and experience in nursing education would appear to be a progressive step forward.

The major challenges lie in the area of curriculum reconstruction (baccalaureate), initiation of graduate programs, recruitment of qualified faculty, and change in the organizational structure of the School.

This report reflects the contribution of a highly committed faculty. The content has been of necessity highly selective, however, its compilation will afford the University with an accounting of our stewardship.

The School's Ten-Year Projected Plan wherein the School of Nursing plans to increase its educational offerings at the Master's and Doctoral levels, and decrease the enrollment in the baccalaureate program, is a commitment to nursing education in the Commonwealth.

The library holdings of the School must be materially increased. Reference books, in particular, are below standards for accredited schools of nursing.

The contact hours of faculty prohibits possibilities for research and publication (21 hours/week). Relief from such long contact hours may be possible if equipment, audio-visual aids, and closed circuit television can be purchased.

UNIVERSITY OF MASSACHUSETTS
School of Nursing

FACULTY

1968-1969

Administration:

Miss Mary A. Maher, R.N. (Rhode Island Hospital School of Nursing); B.S. (Columbia University); M.A. (Columbia University)

Dean, School of Nursing

Miss Lillian R. Goodman, R.N. (Peter Bent Brigham Hospital); M.S. (Boston University School of Nursing); Ed.D. (Boston University School of Education)

Associate Dean, School of Nursing

Maternal and Child Nursing

Miss Gellestrina T. DiMaggio, A.B. (Connecticut College for Women); M.N. (Yale University School of Nursing; R.N.; M.A. (Columbia University)

Professor, Maternal and Child Nursing

Mrs. Sophia B. Harrell, B.S. (Winston-Salem State College); R.N.; M.S. (Boston University School of Nursing)

Assistant Professor, Maternal and Child Nursing

Mrs. Joan Millett, B.S.N. (St. Joseph's College School of Nursing); R.N.; M.A. (Columbia University)

Instructor, Maternal and Child Nursing

Miss Loretta R. Sharp, B.S.N. (University of Colorado); R.N.; M.A. (University of Chicago)

Associate Professor, Maternal and Child Nursing

Miss E. Ann Sheridan, R.N. (Catherine Laboure School of Nursing); B.S.N. (Boston College; M.S.N. (University of Pennsylvania)

Assistant Professor, Maternal and Child Nursing

Miss Edith G. Walker, R.N. (Episcopal Hospital of Philadelphia); B.S.N. (University of Pennsylvania); M.A. (Columbia University)

Assistant Professor, Maternal and Child Nursing

Medical and Surgical Nursing

Mrs. Susan P. Cahoon, B.S. (University of Massachusetts School of Nursing); R.N.

Clinical Instructor, Medical-Surgical Nursing

Miss Elizabeth A. Clarke, A.B. (Mt. Holyoke College); M.A. (Columbia University); M.N. (Yale University School of Nursing); R.N.

Assistant Professor, Medical-Surgical Nursing

Miss Mary F. Condron, R.N. (St, Francis Hospital School of Nursing); B.S.N.E. (The Catholic University of America); M.S.N. (The Catholic University of America)

Assistant Professor, Medical-Surgical Nursing

Mrs. Loretta Eiben, B.S. (University of Iowa); R.N.; M.S. (University of Iowa)

Instructor, Medical-Surgical Nursing

Mrs. Alice Friedman, R.N. (Mass. General Hospital School of Nursing); B.S. (Teachers College, Columbia University); M.S. (Boston University)

Assistant Professor, Medical-Surgical Nursing

Mrs. Susan D. Grancio, B.S.N. (Georgetown University School of Nursing); R.N.; M.S. (New York University)

Instructor, Medical-Surgical Nursing

Mrs. Mary E. Helming, R.N. (Mass. General Hospital School of Nursing); B.S. (Simmons College); M.S.N. (The Catholic University of America)

Professor of Nursing

Miss Charlotte R. Hoglund, R.N. (Memorial Hospital - Worcester); B.S. (University of Virginia); M.Ed. (Columbia University)

Assistant Professor of Nursing

Miss Karen R. Johnson, B.S.N. (Hamline University); R.N.; M.Ed. (University of Minnesota)

Assistant Professor, Medical-Surgical Nursing

Miss Elaine L. LaMonica, B.S. (Columbia Union College); R.N.; M.N. (University of Florida)

Instructor, Medical-Surgical Nursing

Miss Benita C. Martocchio, B.S. (Hartford College); R.N. (Hartford Hospital School of Nursing); M.S.N. (Western Reserve University)

Assistant Professor, Medical-Surgical Nursing

Miss Faye Moore, B.S.N. (Emory University); R.N.; M.N.(Emory University)

Instructor, Medical-Surgical Nursing

Mrs. Madeline Murphy, R.N. (Springfield Hospital School of Nursing); B.S.N. (Boston University); M.S. (Boston University)

Instructor, Medical-Surgical Nursing

Miss Jane E. Nicholson, R.N. (Mt. Auburn Hospital School of Nursing); B.S. (University of Utah School of Nursing); M.S. (Boston University)

Associate Professor, Medical-Surgical Nursing

Miss Alice Norman, R.N. (Westchester School of Nursing); B.S.N. (Western Reserve University); M.S.N. (Western Reserve University)

Assistant Professor, Medical-Surgical Nursing

Miss Charlene Phelps, B.S.N. (University of Connecticut School of Nursing); R.N.; M.S.N. (Western Reserve University)

Assistant Professor, Medical-Surgical Nursing

Miss Joan Sweeney, R.N. (Springfield Hospital School of Nursing); B.S. (Teachers College, Columbia University); M.A. (Columbia University)

Assistant Professor, Medical-Surgical Nursing

Psychiatric-Mental Health Nursing

Mrs. May B. Hall, R.N. (St. Barnabas Hospital for Women and Children); B.S.N.E. (Marquette University); M.S. (Boston University)

Assistant Professor, Psychiatric-Mental Health Nursing

Mrs. Janet Simmons, R.N. (Worcester Memorial Hospital); B.S. (Boston University); M.S. (Boston University)

Assistant Professor, Psychiatric-Mental Health Nursing

Mrs. Helen M. Whitbeck, R.N. (New Jersey State Hospital); B.S.N.E. (Marquette University); M.S. (Boston University)

Assistant Professor, Psychiatric-Mental Health Nursing

Dr. Alvin Winder, Clinical Psychologist, Ph.D. (University of Chicago)

Associate Professor of Nursing

Nursing in the Community

Miss Madeleine D. Lord, R.N. (St. Luke's Hospital School of Nursing); B.S.N. (Simmons College); M.A. (Columbia University)

Instructor, Nursing in the Community

Mrs. Constance Petrunenko, R.N. (Children's Hospital School of Nursing); B.S.N. (Boston University); M.A. (Columbia University)

Assistant Professor, Nursing in the Community

Miss Katherine Ryan, R.N. (Boston City Hospital); B.S. (Boston University School of Nursing); M.S. (Boston College School of Nursing)

Instructor, Nursing in the Community

Mrs. Ruth A. Smith, R.N. (Mass. General Hospital School of Nursing); B.S.N. (University of Connecticut); M.N. (University of Washington)

Assistant Professor, Nursing in the Community

Graduate Program

Miss Virginia Earles, B.S.N. (Syracuse University); R.N.; M.S.N.E. (Syracuse University)

Professor, Medical-Surgical Nursing

Part-Time

Mrs. Doris Henley, B.S. (Simmons College); A.D.A.

Lecturer, Clinical Nutrition

Mrs. Anne Lee, Ph.D. (University of Pennsylvania)

Lecturer in Research

Mrs. Joyce Wilkes, B.S.N. (Syracuse University); R.N.

Clinical Instructor, Medical-Surgical Nursing

ANNUAL REPORT
SCHOOL OF PHYSICAL EDUCATION
June 1969

1. Appropriations

Account/Year	1966-1967	1967-1968	1968-1969
03	$35,900	$30,000	$30,000
06	4,000	3,000	3,500
07	8,000	9,500	9,950
10	5,200	4,200	4,200
11	44	-0-	-0-
12	8,350	7,395	7,500
13	25,000	21,000	21,000
14	3,500	3,500	
14-1	8,000	19,000	18,500
15	6,500	6,500	4,500
16	300	300	300

2. Personnel[1]

	1966-67	1967-68	1968-69
Dean	1	1	1
Associate Dean	1	1	1
Department Head	2	2	2
Professor	5	6	6
Associate Professor	6	8	8
Assistant Professor	7	8	9
Instructor	14	11	12
Part-time Instructor	1	1	1
Assistant Athletic Director	1	1	1
Head Coach	2	2	2
Intramural Director	1	1	1
Assistant Intramural Director	0	0	1
Assistant Football Coach	2	5	5
Athletic Coach	4	5	5
Assistant Athletic Coach	3	2	2
Financial Manager of Athletics[2]	1	1	1
Sports Information Director[2]	1	1	1
Asst. Sports Information Director[2]	1	1	1
Ticket Manager[2]	1	1	1

3. Organization Chart for 1969-70 - See attached chart.

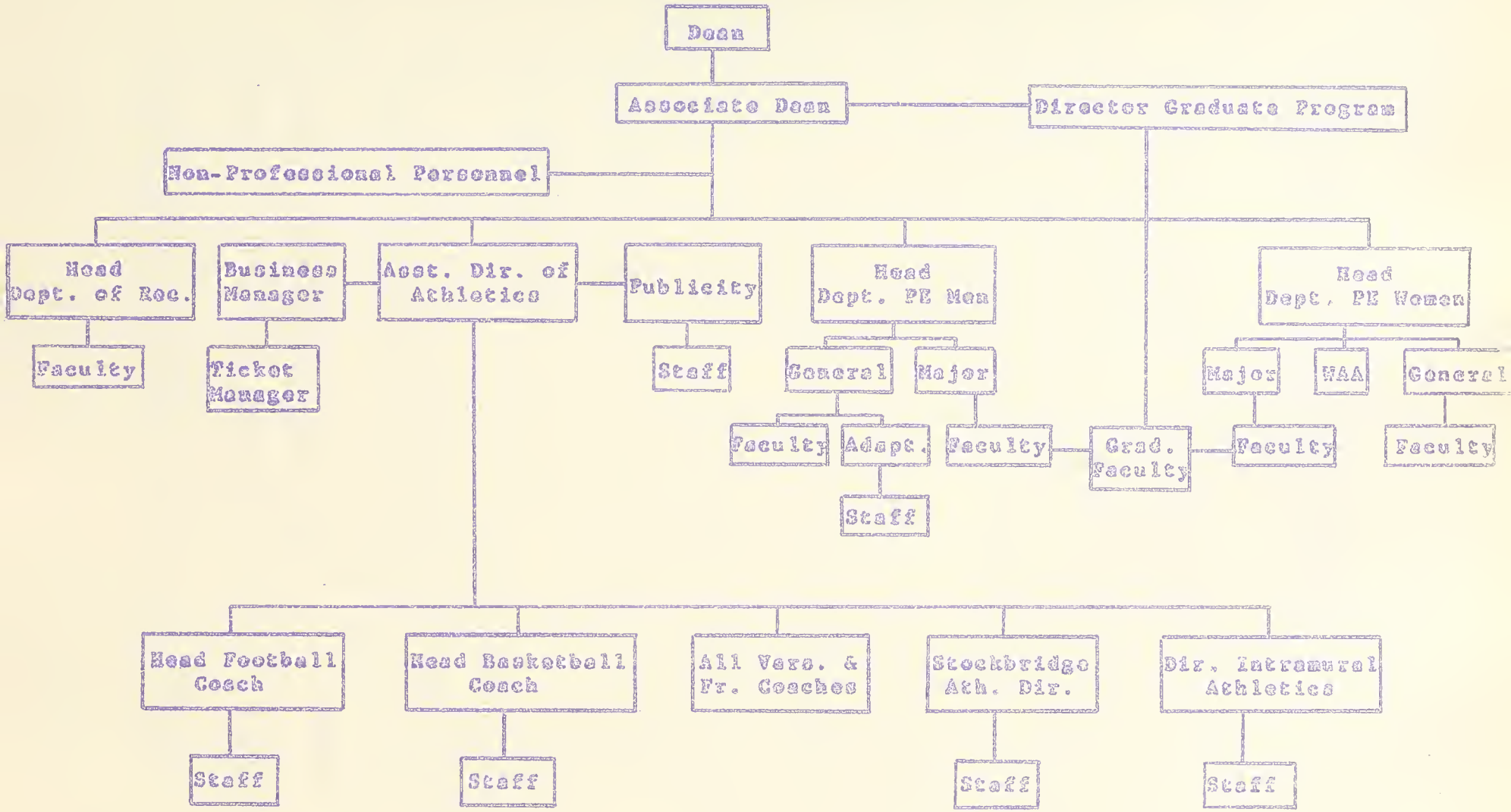
4. Students or clientele served[1]

	Sept. 1966	Sept. 1967	Sept. 1968
Number of Graduate Students	44	38	38
Number of Undergraduate Majors	489	602	705
Number of Students Taught	7411	7665	9147
Athletic Team Membership	770	792	781
Intramural Participation	3239	3923	4274

[1]See Appendix for Departmental breakdown.

[2]Paid from Athletic Trust Funds

SCHOOL OF PHYSICAL EDUCATION



5. Faculty publications, research grants and other professional activities.

a. Books:

VanderZwaag, Harold J. (with Karl W. Bookwalter) Foundations and Principles of Physical Education. Philadelphia: W. B. Saunders Company, 1969, 394 pp.

b. Articles:

Kjeldsen, Eric. "A Backward Approach to Teaching Gymnastics," The Magic of Gymnastics, ed. Gerald S. George, published in conjunction with the AAHPER office, 1969.

Kroll, Walter. "Patellar Reflex Time and Reflex Latency Under Jendrassik and Crossed Extensor Facilitation," American Journal of Physical Medicine. 47: 105-114, March 1969.

Kroll, Walter. "Quality of Simple Reaction Time and the Psychological Refractory Period," Research Quarterly. 40: 105-114, March 1969.

Lewis, Guy (with G. Alan Stull) "The Funeral Games of the Homeric Greeks," Quest. XI: 1-13, Dec. 1968.

Lewis, Guy "Adoption of the Sports Program, 1906-39; The Role of Accommodation in the Transformation of Physical Education," Quest. XII: May 1969.

Plagenhoef, Stanley. "Computer Programs for obtaining Kinetic Data on Human Movement," J. Biomechanics: I, 221-234, Aug. 1968.

Plagenhoef, Stanley. "Gathering Kinesiological Data Using Modern Measuring Devices," Journal of Health, Physical Education, Recreation, Oct. 1968.

Plagenhoef, Stanley. "A Kinetic Analysis of Running," Track and Field Quarterly Review, October 1968.

Plagenhoef, Stanley. "The Golf Drive," Florida JOHPER, Feb., 1969.

Randall, William E., Natural Resources of the Connecticut River Basin in Connecticut, Massachusetts, New Hampshire and Vermont. A Survey compiled for the National Park Service. April 1969. 246 pp. and 8 appendices.

Randall, William E., Careers in Natural History, FOCUS OUTDOORS: Program and Speakers Notes. 1968. p. 29.

VanderZwaag, Harold. "Sport: Essential or Existential?" Quest XII, May 1969.

Page, Richard H. - Campus Close-up University of Massachusetts. COACH & ATHLETE, April 1969.

c. Papers presented:

Coffey, Margaret A., "The Role of Personal Relations and Involvement Within a Staff." AAHPER Conference, April 1969

Randall, William E., "Careers in Natural History," FOCUS OUTDOORS Conference, August 1968.

Richardson, Dorothy A., "Problem Solving as an Approach to Teaching," EAPECW Conference, October 1968

d. Professional Activities:

Departmental faculty were represented at the following conferences:

American Camping Association
Massachusetts Recreation and Park Society
National Forum on Preparing Tomorrow's Park, Recreation & Conservation Leaders
National Recreation & Park Congress
New England District Park & Recreation Conference
American Assoc. for Health, Physical Education and Recreation
Eastern Assoc. for Physical Education of College Women
Massachusetts Assoc. for Health, Physical Education and Recreation
National College Physical Education Association for Men
International Conference for Health, Physical Education and Recreation
International Academy of Aquatic Art
American College of Sports Medicine

6. Major Accomplishments - 1968-69

a. Department of Athletics

1) Intramurals

During the past year the Intramural Department assumed the responsibility of supervising free play activities on campus. The Free Play facilities used included: Boyden Gymnasium, handball and squash courts, Women's Physical Education-Hicks-Boyden Natatoriums, weight training rooms, and Boyden Bowling Alleys. 31,799 participations were logged during the Free Play activities at the above facilities and for the first time scheduled Free Play opportunities were available during all examination periods, semester breaks, and vacation periods.

Co-recreation activities were made available at the beginning of the second semester. Recreational and semi-competitive activities were offered in volleyball, bowling, badminton, golf, tug-o-war, and tennis.

Interest and participation in intramural activity for men on the undergraduate and faculty levels all showed increases. It is also interesting to note that although there is no way of counting all of them, the number of spectators viewing the 2,278 contests played during the year was very sizable.

2. Intercollegiate Athletics

The 1968-69 intercollegiate athletic performances rank among the best in the School's history. Sixteen varsity teams won sixty-one percent of the contests played and the lacrosse, tennis and rifle teams all completed undefeated seasons. Basketball, indoor and outdoor track, baseball and tennis all won Yankee Conference Championships. Redmen performance in conference championship competition was again outstanding and as a result the University won the Frank Keaney Trophy for the fifth straight year. This trophy is symbolic of Yankee Conference Championship supremacy. The varsity basketball team completed one of the most successful seasons in the history of the sport at Massachusetts. The lacrosse team won its New England league title with a perfect 10-0 record and the team has lost but one game in the past two years. Four members of the team were Little-All American choices at the conclusion of the season. The baseball team climaxed a fine season by winning the New England championship and representing District I in the College World Series in Omaha. After defeating Southern Illinois, the Number One ranked team in the opening round, Massachusetts was eliminated in the third round by Arizona State, the eventual winner of the tournament.

A half-hour television show in color was produced for ten Sundays during the Fall which consisted primarily of football highlights of each game during the season as well as spot features on various campus activities.

The NCAA District College baseball playoffs were held on campus during the first weekend in June with Massachusetts, Dartmouth College and Boston University competing in the double elimination tournament.

b. Department of Physical Education for Men

Note: The first three major accomplishments listed below were School enterprises and do not reflect accomplishments of the Department as such. However, departmental personnel were instrumental in bringing about these accomplishments with the Department of Physical Education for Women.

1. The undergraduate majors program was revised. This revision will go into effect September 1969. The new curriculum, characterized by diversity and flexibility, may well serve as a model for future curricula at the undergraduate level in physical education throughout the United States.

2. A Ph.D. program in Human Movement, with an initial specialty in Exercise Science, was presented for approval. This program will also go into effect September 1969.

3. A revision of the General Physical Education Program has also been submitted for approval. The proposal calls for a reduction in the requirement and the granting of credit for courses taken in the General Physical Education Program.

(In addition to the above curricular accomplishments, two other forms of accomplishment might be mentioned:)

4. Progress has been made in breaking down some of the artificial barriers involving the men and women's programs. The revised undergraduate majors program will be completely co-educational except for most skill and coaching courses. In addition, Mrs. Ethel Purnell has been appointed to a new position as Director of the General Physical Education Program for the School.

5. Two new faculty members will join the staff in September. Dr. John Loy, a sport sociologist, is coming from UCLA. Dr. Dee Edington, an exercise physiologist, is coming from the University of Toronto. Each of these men has the in-depth preparation to make a significant contribution in his specialty.

c. Department of Physical Education for Women

1. The Department has cooperated with the Department for Men in adopting a School of Physical Education undergraduate professional program which we believe to be unique in the country. This program provides for teacher education or study in the related disciplines.

The student is permitted freedom to choose the direction of the educational endeavor in these two options through concentration areas, physical activity pursuits, and general education electives. The student response to this program has been enthusiastic.

2. The women's sports program is undergoing careful scrutiny. The Departmental faculty has accepted policies for an intercollegiate women's sports program which awaits approval and implementation. The Women's Athletic Association has revised its constitution, and students are actively seeking answers to upgrade the total extramural program. Club activities which are based on a production for audiences are considering their uniqueness from the typical sports program. New ideas for all these programs are being explored to meet student needs.

3. The Department has worked cooperatively with the Department for Men in meeting the curriculum desires of the students in offering a General Physical Education program which supports the belief in the value of physical activity. The change in this program will be evident in the next few years as the proposal to offer a two-credit requirement has been approved by the Faculty Senate.

d. Department of Recreation

A new faculty position was allocated to the department and Dr. Jean Sherrow has been appointed to it. During the current year lack of this position resulted in cancellation of certain courses and the appointment of Mr. Harry Reynolds, Superintendent of Recreation in Longmeadow to teach Introduction to Recreation course both semesters and Mr. Baldwin Lee to teach the Organization Recreation course during the fall semester.

The senior accelerated block was made available in both semesters for the first time. This represents a major step forward in achieving flexibility for scheduling course sequences.

The first students with an Associate Degree in Recreation from Northwestern Connecticut Community College were admitted to our program this year. More are due to arrive in September. This represents another recruitment source.

A classroom which was remodelled for our use (Hicks 10) and which was then allocated to other departments has been regained.

Miss Scanlon and Mr. Willmann have continued in their pursuit of advanced degrees.

e. Graduate Program

In October, 1968, the school's graduate faculty approved a doctoral proposal requesting the authority to offer a program of study leading to a Ph.D. degree in Human Movement. This proposal underwent an intensive review by many intra-university committees during most of the subject period and was finally approved by the Board of Trustees in June, 1969.

Ten new doctoral level courses were incorporated in the proposal. These new courses, coupled with eighteen existing courses and an

outstanding graduate faculty devoted to teaching and research in human movement, will permit us to embark upon an in-depth doctoral program during the next fiscal year.

Our graduate faculty met frequently during the report year to discuss the direction of our Master's program for the next three-to-five years. These discussions resulted in the adoption of a new thirty-six hour, research oriented non-thesis program as well as the retention of a thirty-hour thesis program.

Future Plans and Needs

a. Athletic Department

The need for an artificial ice facility for use in intercollegiate Hockey, Intramurals, and free skating is most critical. Study is under way of site, financing, and program for a multi-use complex that would serve as a convocation and athletic center. This facility would accommodate Basketball and Hockey in the formal Athletic program, and Handball, Squash, Fencing, and Weight Lifting in the Intramural and Free Play programs.

b. Men's Physical Education

Plans call for a study of reorganization of the School along functional lines. Should this occur, the Department of Physical Education for Men and Women may very well not exist as such in the future. Within the Departments we have faculty members who have widely varying interests and abilities in sport skill instruction, coaching, the theory of sport, and exercise science. It is hoped that the reorganization of the School will enable each of these faculty members to more closely identify and make a more significant contribution in his area of interest.

c. Women's Physical Education

The needs of the Department are:

1. Addition to building including dance complex, office space, classroom, and movement education area.
2. Positions for Dance Accompanist, and secretarial assistance.
3. Monies for travel, speakers, intercollegiate sports program, permanent equipment.
4. Reconstruction of the women's playing fields, field sports, field lights, electrical outlet on present courts, putting area on the golf range.

Until these needs are realized, the Department has cause to believe that future plans and programs cannot materialize. The Department is utilizing all its resources to maintain the improvements in its programs which have been realized in the last five years.

d. Recreation Department

1. Renovation and remodelling in Hicks.
2. Building continues to be a real need.

Aside from the commonly felt needs for more funds for equipment, travel, and the like, the primary future plans of the Department include development of a graduate program, with an accompanying research program and modest revision in our undergraduate offerings. An extension and continuing education program in Recreation is very much needed in the Commonwealth and is a service the Department still looks forward to developing as the resources become available.

e. Graduate Program

The major task confronting us in the immediate future will be the recruitment of qualified students for our new doctoral program. We will also face the problems associated with the implementation of the new non-thesis Master's program. Both of these programs will require the continued support of the Administration.

APPENDIX

Personnel by Department

1. Physical Education for Men

	1966-67	1967-68	1968-69
Department Head	1	1	1
Professor	4	5	4
Associate Professor	1	3	3
Assistant Professor	3	2*	3
Instructor	7	6	6

2. Physical Education for Women

Department Head	1	1	1
Professor	0	0	1
Associate Professor	4	4	5
Assistant Professor	4	6	6*
Instructor	5	3	4
Part-time Instructor	1	1	1

3. Recreation

Professor	1	1	1
Instructor	2	2	2

Students Serviced by Department

1. Physical Education for Men

Majors	253	295	360
General Program	3125	3499	3869
Students Taught	4137	4325	4949

2. Physical Education for Women

Majors	180	231	265
General Program	2552	2595	3250
Students Taught	3064	3158	4045

3. Recreation

Majors	61	76	80
Students Taught	210	182	153

*One Assistant Professor on leave.

DEPARTMENT OF THE AIR FORCE
DETACHMENT 370, AIR FORCE ROTC (AU)
UNIVERSITY OF MASSACHUSETTS, AMHERST, MASSACHUSETTS 01002

17 June 1969

ANNUAL REPORT OF THE DEPARTMENT OF AIR SCIENCE

1. APPROPRIATIONS - by fiscal year (FY)

		FY 67	FY 68	FY 69
01	Salaries, Permanent Positions	$10,795.00	$11,674.00	$11,905.00
03	Services, Non-Employees	200.00	200.00	200.00
04	Food for Persons	30.00	30.00	30.00
10	Travel & Automotive Expense	100.00	100.00	100.00
12	Repairs & Alterations	50.00	50.00	100.00
13	Special Supplies & Expenses	600.00	500.00	450.00
14	Office & Administrative Expenses	150.00	150.00	150.00
14-1	Telephone	750.00	500.00	700.00
	TOTALS	$12,675.00	$13,204.00	$13,635.00

2. PERSONNEL - as of September

	1966	1967	1968
Colonel	0	0	1
Lt Colonel	1	0	0
Major	1	2	1
Captain	2	3	2
TSgt	3	3	2
SSgt	1	2	2
Principal Clerk (Grade 9)	1	1	1
Military Property Clerk (Grade 5)	1	1	1
TOTALS	10	12	10

3. ORGANIZATIONAL CHART - See Attachment #1.

4. STUDENTS OR CLIENTELE

a. Number of Majors -- None.

b. Number of students taught -- September

	1966	1967	1968
Air Science 1	315	137	152
Air Science 2	122	108	50
Air Science 3	60	38	29
Air Science 4	69	57	39
TOTALS	566	340	270

5. FACULTY PUBLICATIONS, RESEARCH GRANTS, RESEARCH PROJECTS, AND OTHER PROFESSIONAL ACTIVITIES -- None.

6. MAJOR ACCOMPLISHMENTS

a. Consistent with the mission of Air Force ROTC, which is that of commissioning career-minded officers to meet Air Force requirements through educational

programs on collegiate campuses, this department commissioned 34 students during Fiscal Year 1969.

b. The Financial Assistance Program authorized by "The ROTC Vitalization Act of 1964," which provides tuition, fees, and books for those students selected for the program, has been very successful. Following is the number of grants this department has received since Academic Year 1966/67:

Year	Number
Academic Year 66/67	7
Academic Year 67/68	9
Academic Year 68/69	21
Academic Year 69/70	15

c. Flight Instruction Program. Five students successfully completed the Flight Instruction Program during Fiscal Year 1969.

7. SPECIAL PROJECTS OR PROGRAMS

The Arnold Air Society, a cadet honor society, was very active during the past academic year. Their projects consisted of work with Boy Scouts, Civil Air Patrol, initiation of a high school visitation program, and ushering at home football games.

8. FUTURE PLANS AND NEEDS

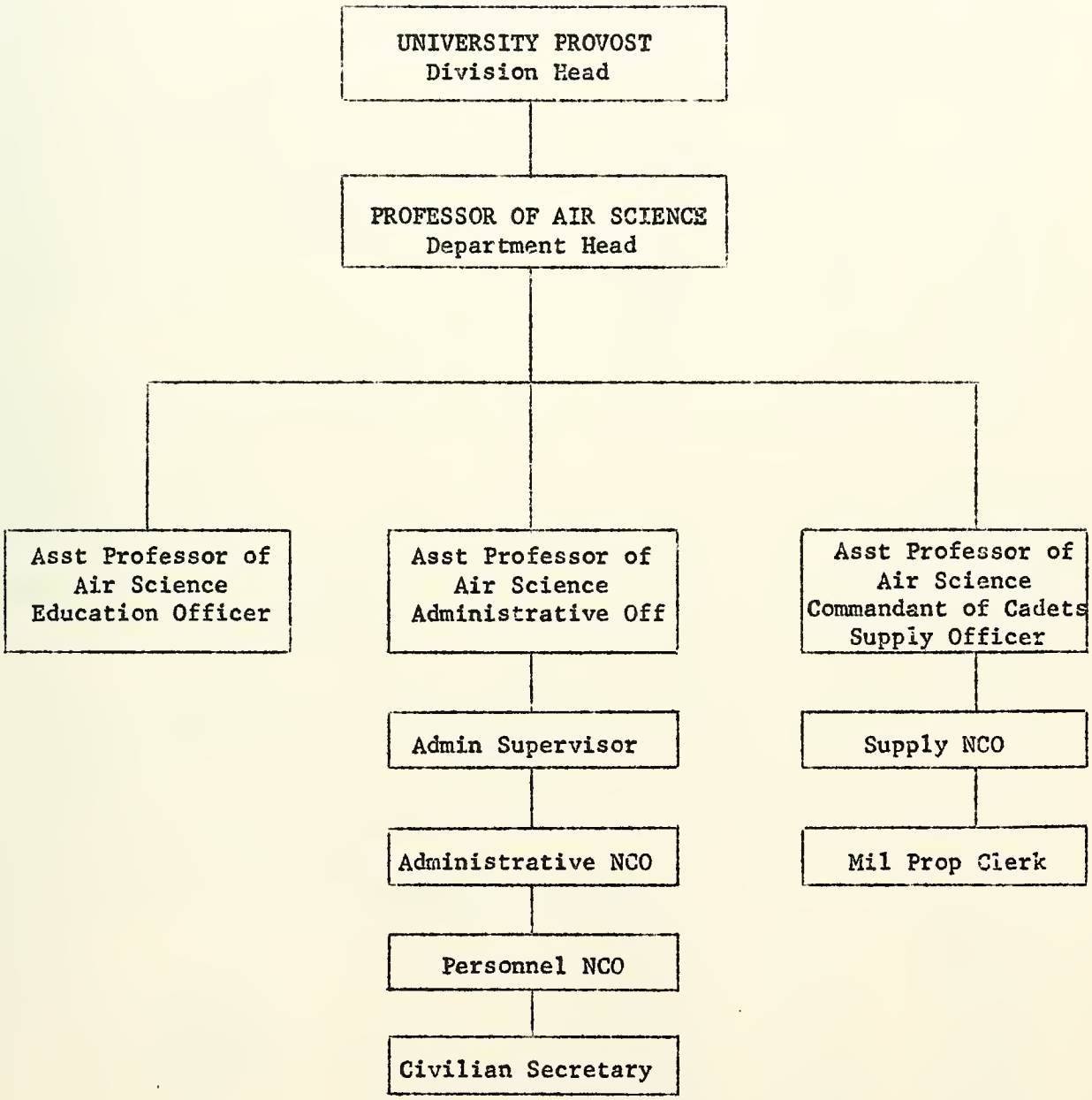
We are continually updating all areas of the Air Science curriculum. This is accomplished in conjunction with Headquarters AFROTC and is necessitated by the ever-changing technology of the aerospace age.

LEON J. FRIEDMAN, Colonel, USAF
Professor of Air Science

1 Atch
Organizational Chart

ORGANIZATIONAL CHART

DEPARTMENT OF AIR SCIENCE



Attachment #1

DEPARTMENT OF THE ARMY
US ARMY ROTC INSTRUCTOR GROUP
UNIVERSITY OF MASSACHUSETTS
AMHERST, MASSACHUSETTS 01002

26 June 1969

ANNUAL REPORT OF THE DEPARTMENT OF MILITARY SCIENCE

1. APPROPRIATIONS - by fiscal year (FY):

		FY 1966-67	FY 1967-68	FY 1968-69
03	Service, non-employee	$ 200.00	$ 200.00	$ 200.00
04	Food for persons	40.00	40.00	40.00
06	Dry Cleaning	-----	-----	-----
10	Travel & Automobile Expenses	75.00	75.00	75.00
12	Maintenance & Repairs	100.00	100.00	100.00
13	Special Supplies & Expenses	300.00	300.00	300.00
14	Office & Administrative Expenses	150.00	150.00	150.00
14-1	Telephone	800.00	900.00	1000.00
15	Equipment	------	------	------
	TOTALS	$ 1665.00	$ 1765.00	$ 1865.00

2. PERSONNEL - as of September

	1966	1967	1968
Colonel	1	1	1
Lieutenant Colonel	1	1	0
Major	0	1	0
Captains	3	2	3
Enlisted	4	4	5
Senior Clerk Grade 7	0	0	0
Principal Clerk Grade 9	1	1	1
Armorer Artificer Grade 5	1	1	1
	11	11	11

3. ORGANIZATIONAL CHART - See Inclosure 1.

4. STUDENTS:

a. Number of Majors: NONE

b. Number of students entrolled - September:

		1966	1967	1968
(1)	Freshmen	259	189	158
(2)	Sophomores	99	87	68
(3)	Juniors	73	54	57
(4)	Seniors	61	68	50
	TOTALS	492	398	333

5. FACULTY PUBLICATIONS, RESEARCH GRANTS, PROJECTS & PROFESSIONAL ACTIVITIES:

A normal personnel turnover was experienced during the year.

6. SPECIAL PROJECTS OR PROGRAMS.

a. The Army ROTC Rifle Team remained under the supervision of the military staff, and participated in postal matches with colleges and universities throughout the nation. With the large number of University teams in active competition, the five-point rifle range was in continuous use.

b. The Bay State Special Forces, a recognized student organization, increased its activities during the past School Year. The qualifications for selection remained unchanged as did the uniforms and equipment issued to members and the type of training conducted. Five weekend Field Training Exercises (F.T.X.) were held during the first semester, while one was conducted between semesters. The second semester found the Bay State Special Forces going on five F.T.X's including one at Fort Devens where they operated in conjunction with other ROTC students in our program. They also marched in the St Patrick's Day Parade in Holyoke.

c. The Flying Redmen Drill Team was organized in the Fall of 1967 to meet the needs of students from the University interested in precision drill. It is a recognized student organization. Although the team consists mostly of Army and Air Force ROTC Cadets, other University students are also members of the team.
The Drill Team has performed in a number of activities this year, including a drill meet in New York City and Pershing Rifles 12th Regimental Drill Meet in Boston, Massachusetts. They have earned three First and Second place trophies this year.

d. The Precisionettes, the University all-women drill team, completed their fourth full year under the sponsorship of the Department of Military Science. Formerly a part of the University Band, the Precisionettes performed as an independent unit taking part in many varied activities during the School Year. Included in these were the traditional half-time performance at football games and marching in special parades such as the Holyoke St Patrick's Day Parade, the University Homecoming Parade and the Halloween Parade in Pittsfield, Massachusetts. The highlight of the year's activities was the Pershing Rifles 12th Regimental Drill Meet - Coed-Drill competition in Boston, Massachusetts, where the Precisionettes took First place; and the National Inter-collegiate Drill Competition in Washington, D.C. where the team took Second place; and the Beanpot Competition in Boston where they again captured First place.

e. Major accomplishments during the year:

As a result of the Department of Military Science Course Change Proposal which was submitted to the Academic Matters Committee of the Faculty

Senate for approval in 1966; a Subcommittee on Military Studies was appointed to review all matters pertaining to the curriculum of the Military Departments including credits, new courses, and programs in order to insure compatibility with normal University standards and to screen candidates for the various military departments.

The Professor of Military Science withdrew the 1966 Course Change Proposal due to a planned curriculum change in SY 1970-71. This curriculum change, if adopted by the University, would require a new course proposal. Therefore, the PMS felt that a course change now would be a duplication of effort.

The Department of Military Science has cooperated with the Subcommittee on Military Studies and so far has furnished copies of text books, course syllabuses, and conducted briefings on the present and proposed curriculums.

The Subcommittee made its report to the Faculty Senate on 23 January 1969 and was directed by the Faculty Senate to study the following four questions:

(1) Should the program significantly increase its non-military faculty participation and interdisciplinary character through such means as "Option C", now being employed at the University of Rhode Island and other universities, which provide, in part, for instruction by regular faculty in portions of the program?

(2) What should be the structural relationship of the Department of Military and Air Science to other units of the University, such as the College of Arts and Sciences?

(3) How much academic credit should be given for the various levels of the ROTC program, present and proposed?

(4) What restrictions, if any, does the Department of Defense place on choice of specific instructional materials for military science courses? Are such restrictions consistent with normal University standards? If not, what remedies are there?

7. <u>FUTURE PLANS AND NEEDS</u>:

a. The department anticipates the loss of two officers during the summer of 1969. As of this date, one officer is expected to arrive on or about 15 August 1969.

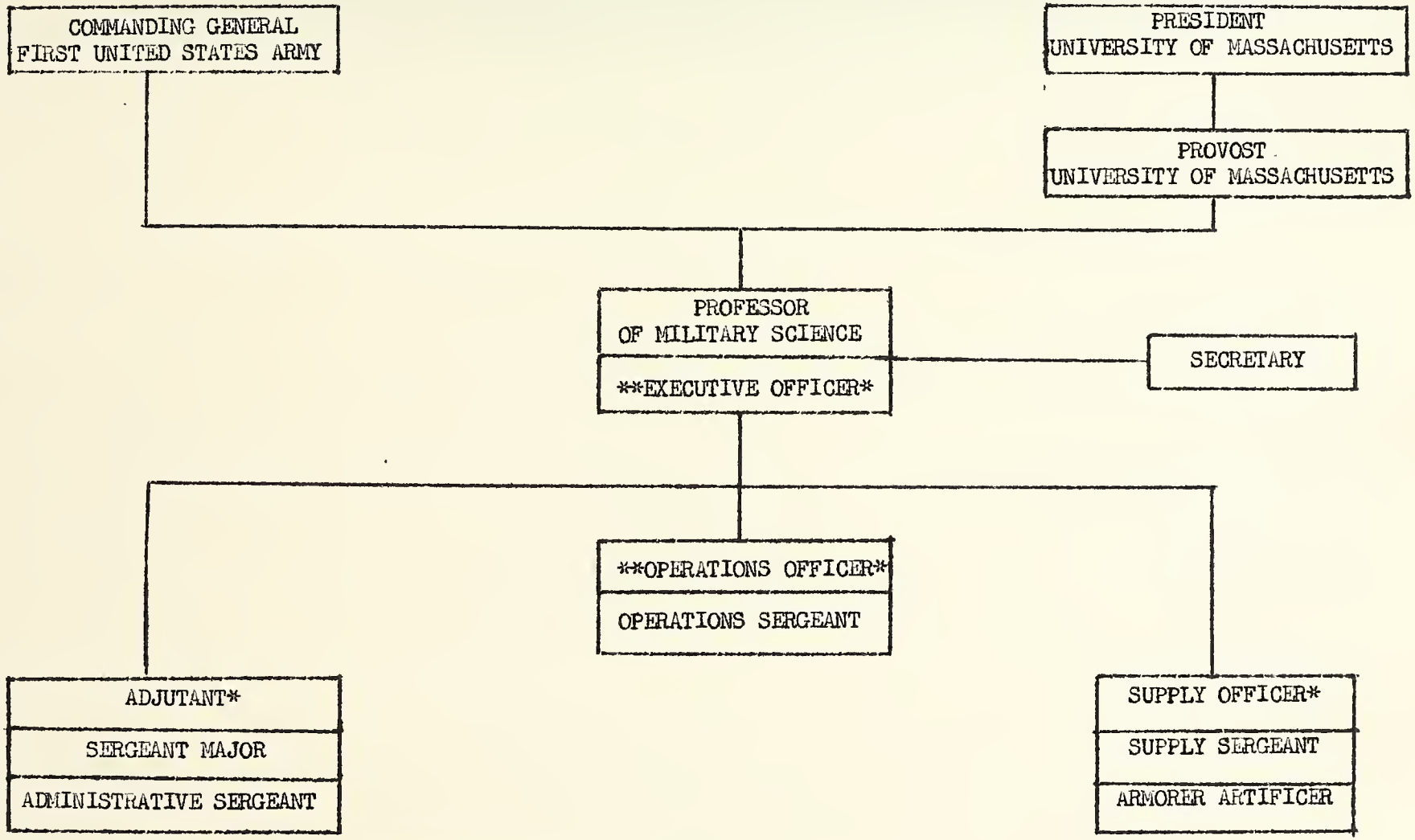
b. The Department of the Army is now preparing a curriculum for ROTC that is expected to provide the Professor of Military Science a greater degree of flexibility. The objectives of the new curriculum are to obtain regular academic credit for 1970-71 ROTC courses, to provide flexibility to permit ready adaptation to the needs of the various institutions offering

ROTC and to fulfill the Army's requirement of preparing the cadet with those basic fundamentals required of a junior officer.

Joseph A. Bohnak

JOSEPH A. BOHNAK
COLONEL, INFANTRY
PROFESSOR OF MILITARY SCIENCE

1 Inclosure
Organizational Chart



NOTES: * indicates full time instructors.
** indicates one officer with dual responsibility.

Inclosure 1 to Annual Report of the Department of Military Science

SEP 1970
WESBY